

OPERATIVE PROCEDURE

O P E R A T I V E
P R O C E D U R E

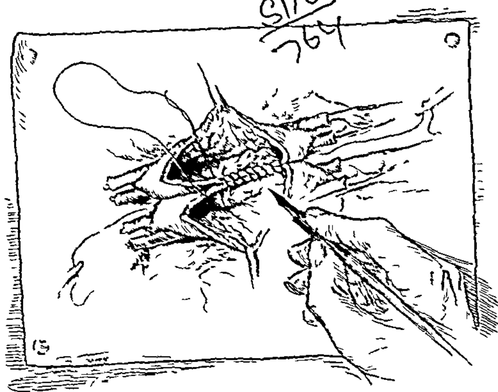
This book was first published in the United States of America, where it has proved of great service to surgeons and medical students alike

The few copies which reached this country were so warmly welcomed that the publishers decided to print a British edition of the book

Text and illustrations remain identical with those in the original American edition

Johnson & Johnson
(GREAT BRITAIN) LIMITED
Slough Bucks England
1944

Printed and made in England at the Fanfare Press London



The Origin and Function of the 'Operative Procedure' Series

This series of plates published by Johnson & Johnson in the leading surgical journals of the United States of America was prepared in collaboration with the staff of Surgery Gynecology and Obstetrics

THE SURGEON who casually views or carefully studies these illustrations will realize that they are not to be found elsewhere in medical or surgical literature As originals, it is understood that they have to be carefully prepared but the amount of effort expended in selecting the subject and then later selecting the important steps to be illustrated may not be comprehended as quickly

There is probably no branch of science or art which has given more evidence of progress in the last two decades than the science of surgical technique The perfection of older methods and originality in new methods have given to the world a mass of material which is worthy of careful immediate study and preservation for future reference

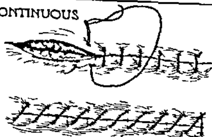
The selection of the subjects in this series was made with the help of several surgeons whose practice and experience enabled the pointing out of not only the most timely technique but likewise the outstanding steps In this way the artist was furnished with material from which he might accurately illustrate approved technique in a new and original manner

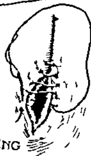
LIGATURE DEPARTMENT
JOHNSON & JOHNSON
SLOUGH BUCKS

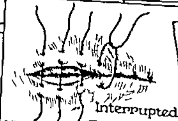
SUTURE TECHNIQUE (NO 1)



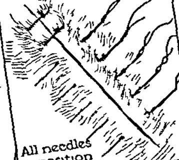


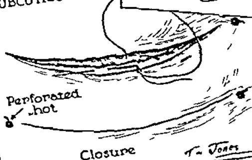


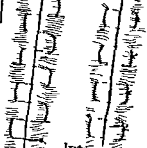












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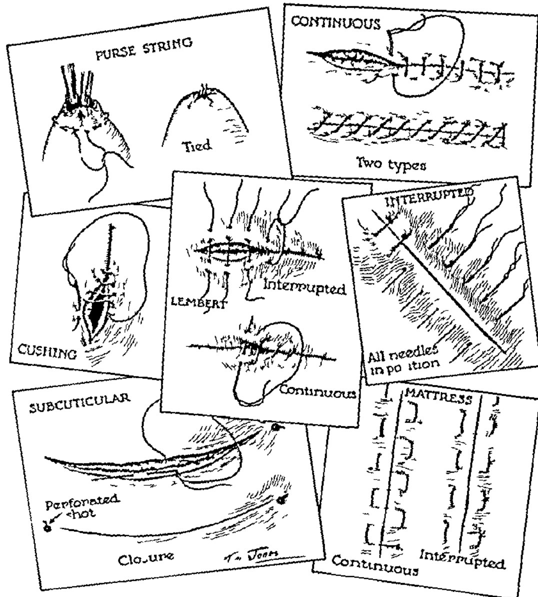
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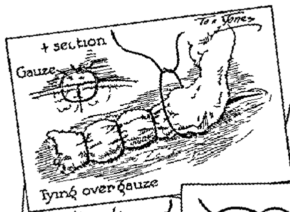
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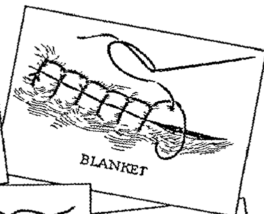
JOHNSON & JOHNSON

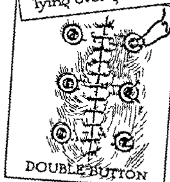
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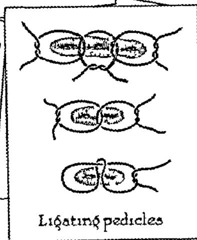
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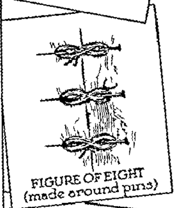


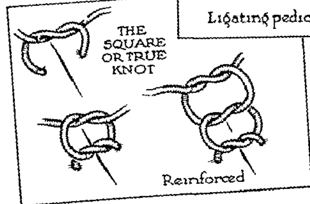

+ section
Gauze
Tying over gauze

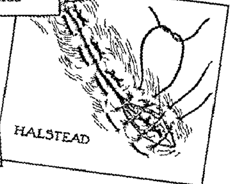

BLANKET


DOUBLE BUTTON

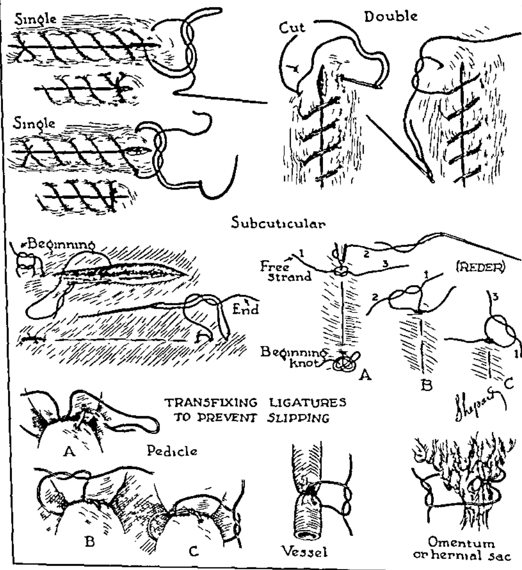

Ligating pedicles


FIGURE OF EIGHT
(made around pins)

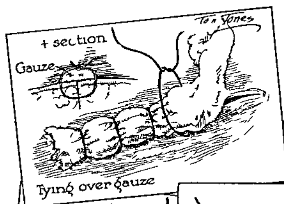

THE SQUARE OR TRUE KNOT
Reinforced

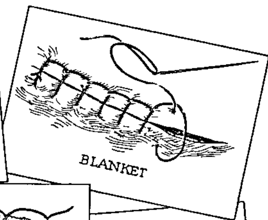

HALSTEAD

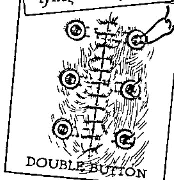
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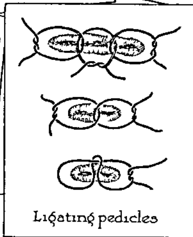


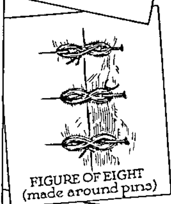
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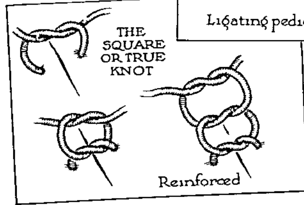


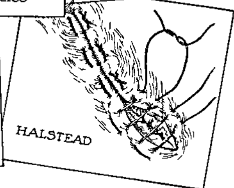




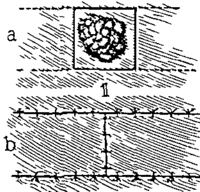


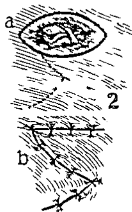


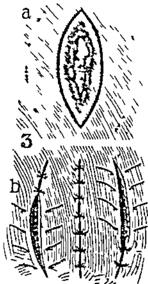


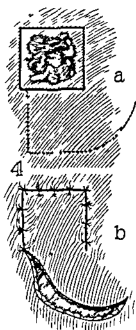


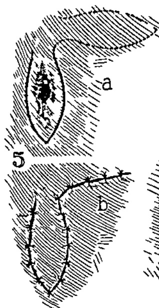
CLOSURE OF SKIN DEFECTS

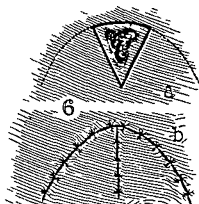




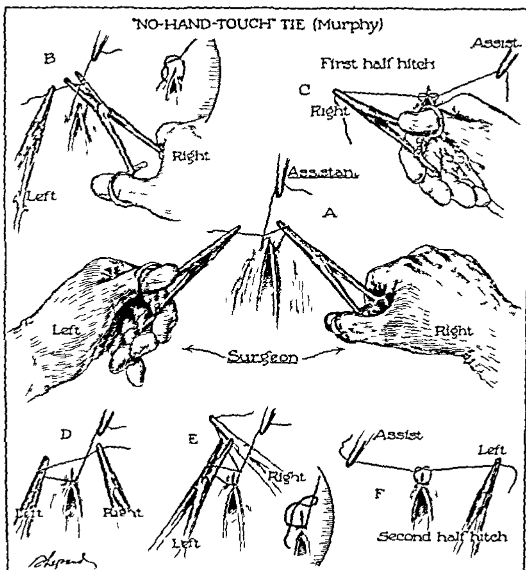


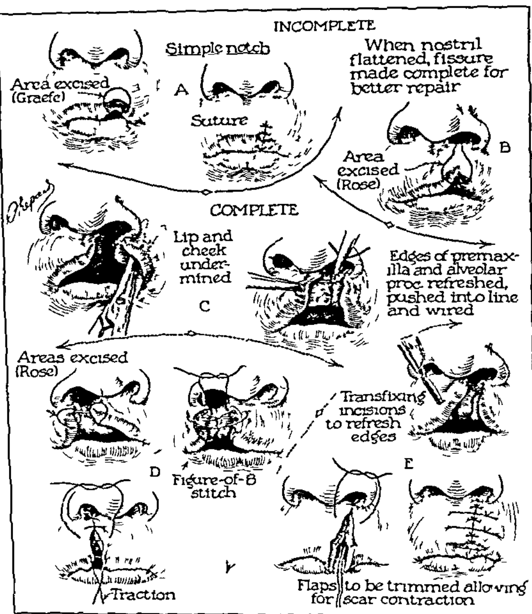






SUTURE TECHNIQUE (NO 4)



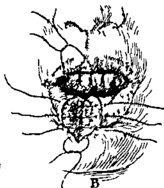

INCOMPLETE
Simple notch
A
When nostril flattened, fissure made complete for better repair
Area excised (Graefe)
Suture
B
Area excised (Rose)
COMPLETE
Lip and cheek under-mined
C
Edges of premax-illa and alveolar proc. refreshed, pushed into line and wired
Areas excised (Rose)
Transfixing incisions to refresh edges
D
Figure-of-8 stitch
E
Traction
Flaps to be trimmed allowing for scar contraction

RESECTION FOR EPITHELIOMA OF LIP

EARLY CASE



A
Incision

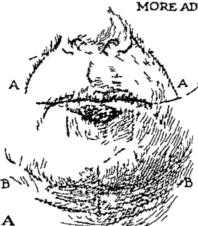


B
Sutures in position
(Stitches in mucous membrane tied first)

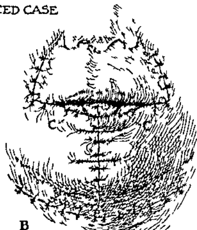


C
Sutures tied (Note fulness in center to prevent subsequent notching)

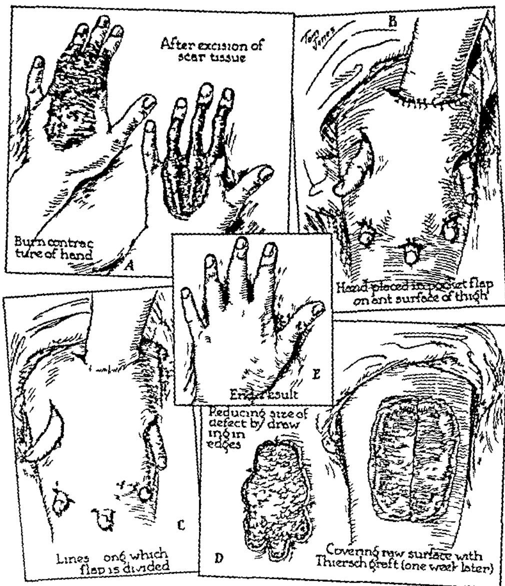
MORE ADVANCED CASE

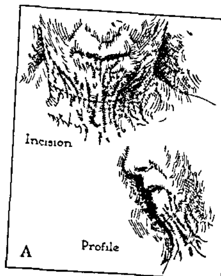


A
Incisions AA Triangles of skin removed to permit reconstruction of lower lip BB Incision for removal of lymph nodes



B
Operation completed Note reconstructed vermilion border CC of mucous membrane of cheek

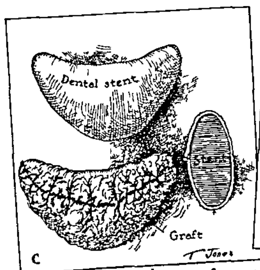

After excision of scar tissue
Burn contracture of hand
A
B
Hand placed in pocket flap on ant surface of thigh
E
End result
C
Lines along which flap is divided
Reducing size of defect by drawing in edges
D
Covering raw surface with Thiersch graft (one week later)



Burn contracture of neck



Raw surface resulting from simple division of scar and freeing of tension

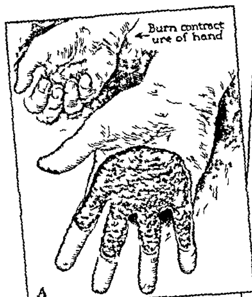


Graft with raw surface outward wrapped about mold of dental stent



Graft covered mold buried in raw surface

SKIN GRAFTING—FREE FULL THICKNESS GRAFTS

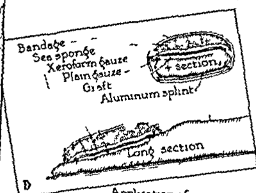


Extent of raw surface resulting from excision of scar





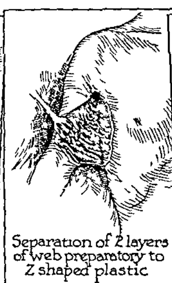
Suture of graft completed with fine sutures

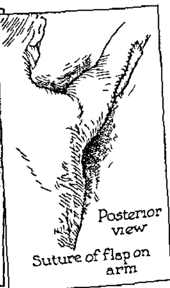


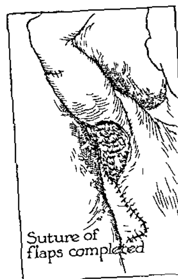
Application of pressure dressing over graft

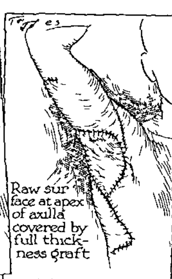
TREATMENT OF BURN CONTRACTURE OF AXILLA



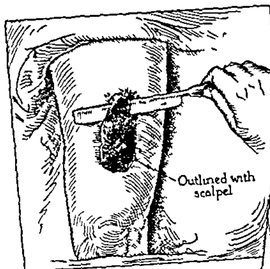








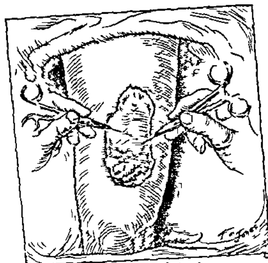




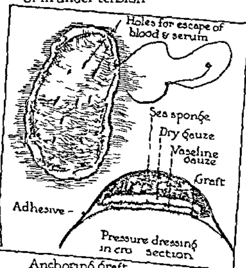
Excision of granulation
tissue from raw area



Cutting of graft
Skin under tension

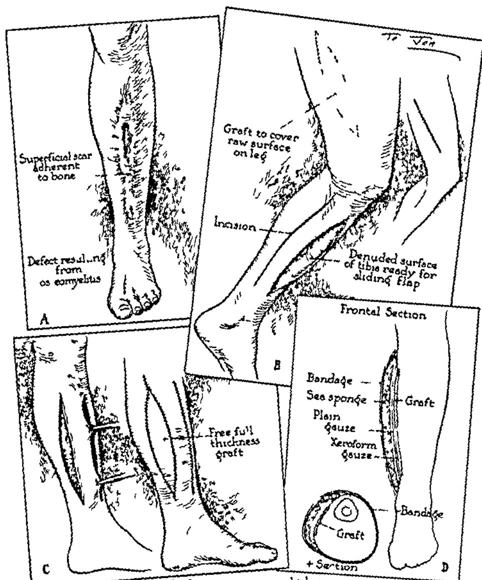


Teasing graft into
position with needles



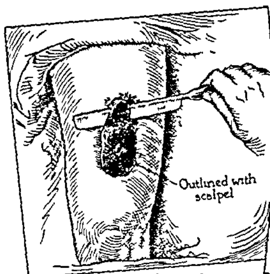
Anchoring graft
with fine skin suture

FULL THICKNESS GRAFT WITH SLIDING FLAP



Flap shifted to cover exposed tibia
Resulting raw surface covered by graft

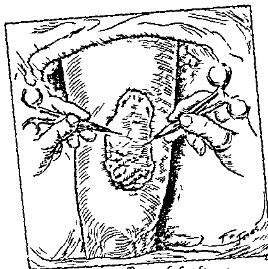
SKIN GRAFTING—SPLIT GRAFTS



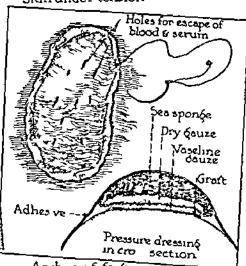
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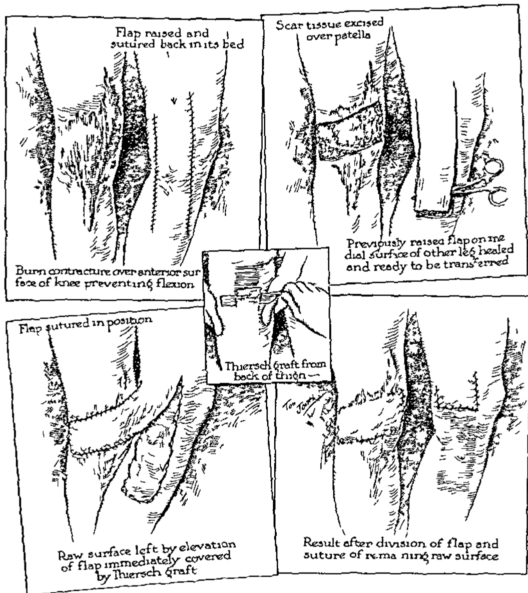


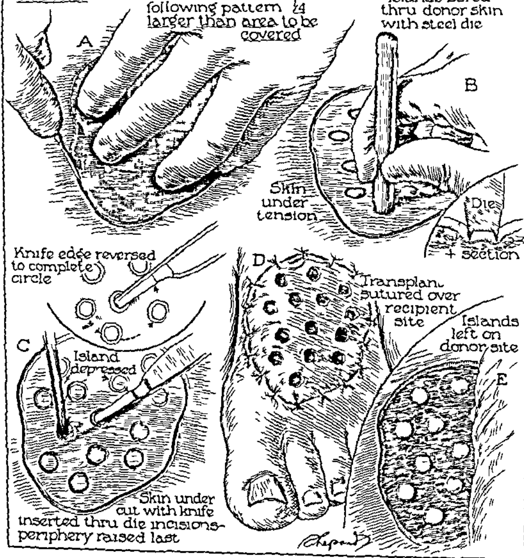
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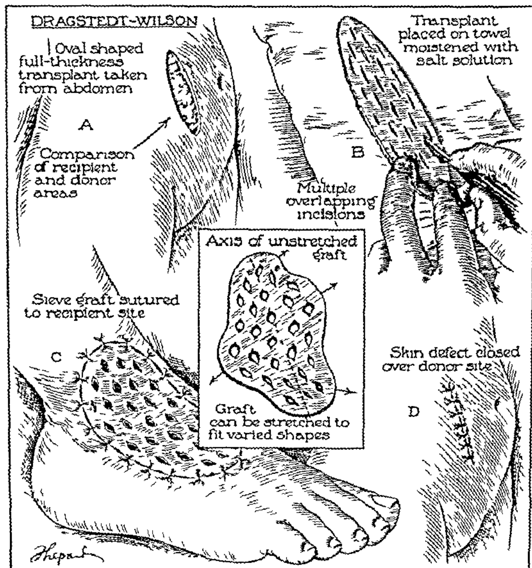


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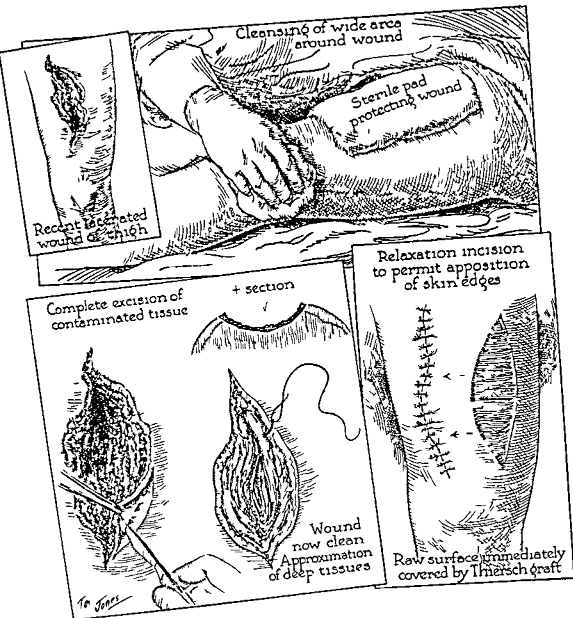
DELAYED PEDICLED FLAP



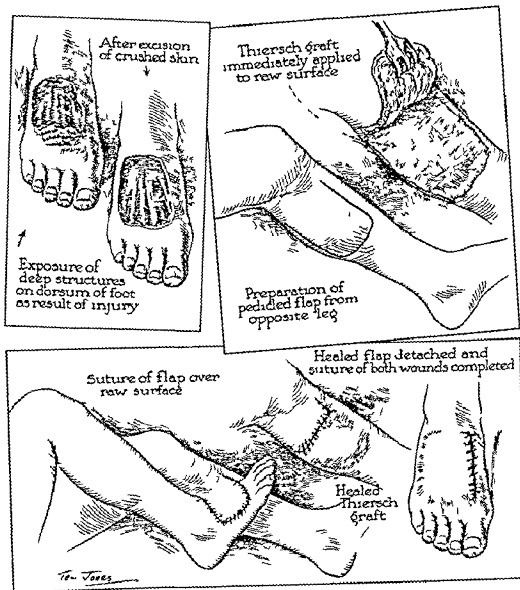

DOUGLAS
Donor skin incised following pattern 1/4 larger than area to be covered
A
Islands bored thru donor skin with steel die
B
Skin under tension
Die
+ section
Knife edge reversed to complete circle
C
Island depressed
Skin under cut with knife inserted thru die incisions-periphery raised last
D
C
Transplant sutured over recipient site
Islands left on donor site
E

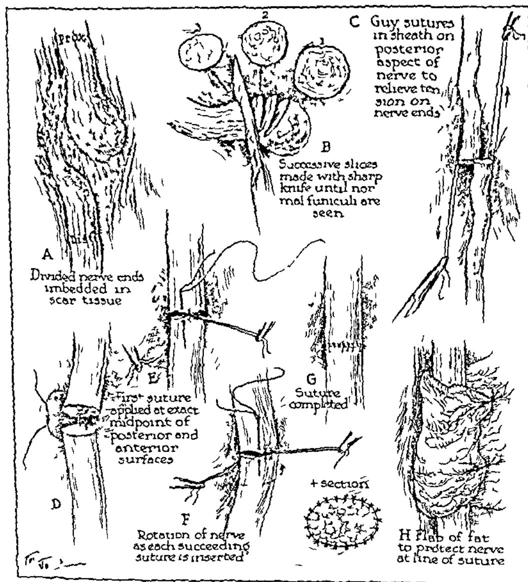

DRAGSTEDT-WILSON
Oval shaped full-thickness transplant taken from abdomen
A
Comparison of recipient and donor areas
Transplant placed on towel moistened with salt solution
B
Multiple overlapping incisions
Axis of unstretched graft
Graft can be stretched to fit varied shapes
Sieve graft sutured to recipient site
C
Skin defect closed over donor site
D

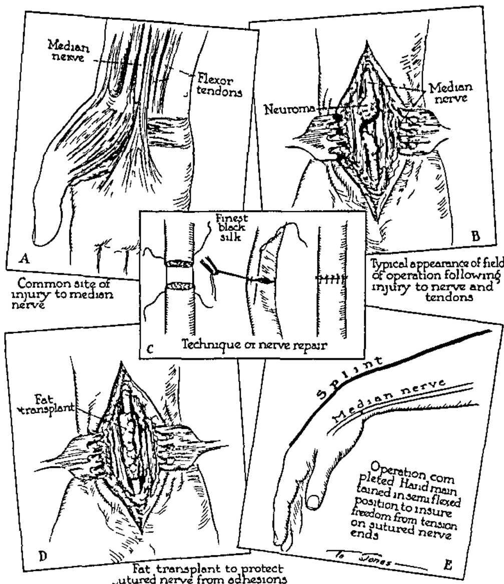
IDEAL TREATMENT OF LACERATED WOUND



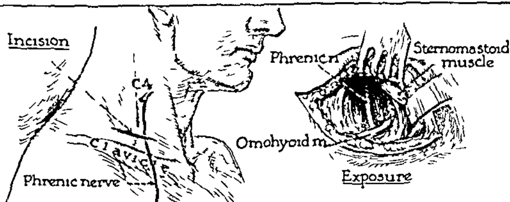
IMMEDIATE TREATMENT OF CRUSHING INJURY OF FOOT



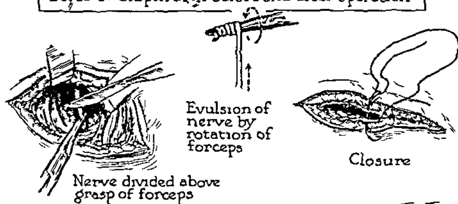

prox
dis
A
Divided nerve ends imbedded in scar tissue
2
1
B
Successive slices made with sharp knife until normal funiculi are seen
C Guy sutures in sheath on posterior aspect of nerve to relieve tension on nerve ends
D
E
First suture applied at exact midpoint of posterior and anterior surfaces
G
Suture completed
F
Rotation of nerve as each succeeding suture is inserted
+ section
H Flap of fat to protect nerve at line of suture

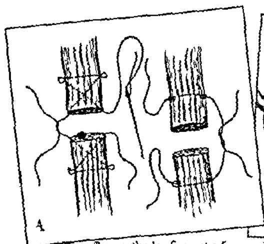

Median nerve
Flexor tendons
A
Common site of injury to median nerve
Neuroma
Median nerve
B
Typical appearance of field of operation following injury to nerve and tendons
Finest black silk
C
Technique of nerve repair
Fat transplant
D
Fat transplant to protect sutured nerve from adhesions
Splint
Median nerve
Operation completed. Hand maintained in semi flexed position to insure freedom from tension on sutured nerve ends
E

PHRENIC NEURECTOMY

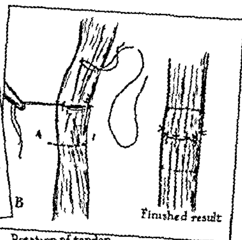




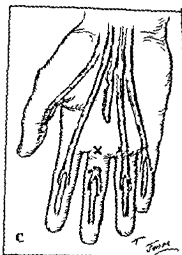




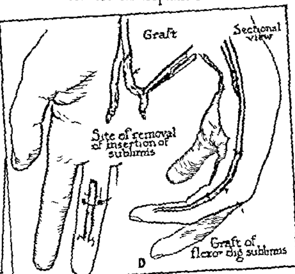
Two methods of inserting stay sutures in divided tendons



Rotation of tendon to permit insertion of sutures for accurate coaptation

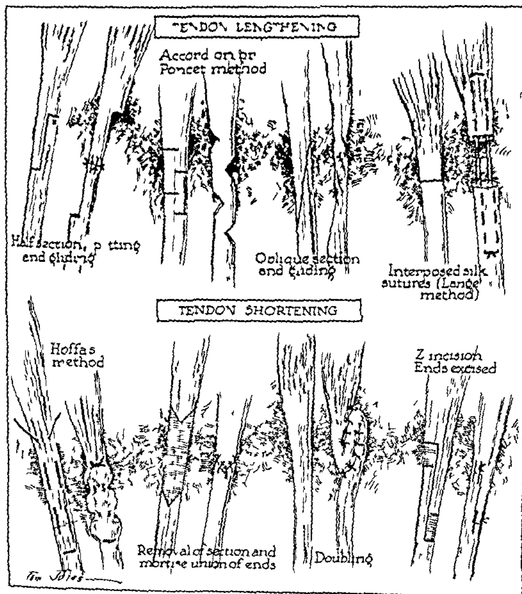


A common site (x) of tendon injury with resulting retraction of tendon ends

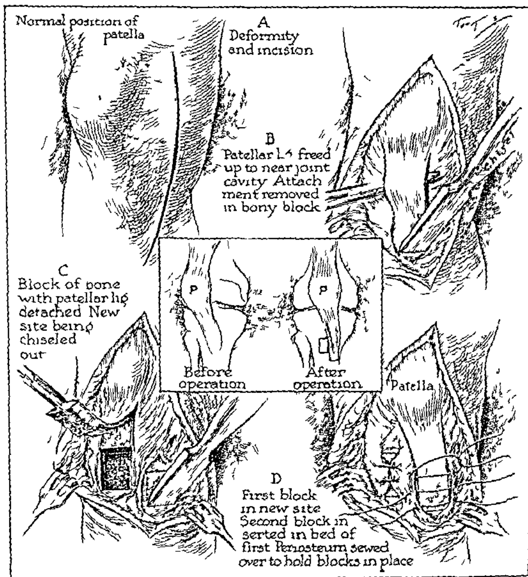


Technique of repair (Finger semi flexed)

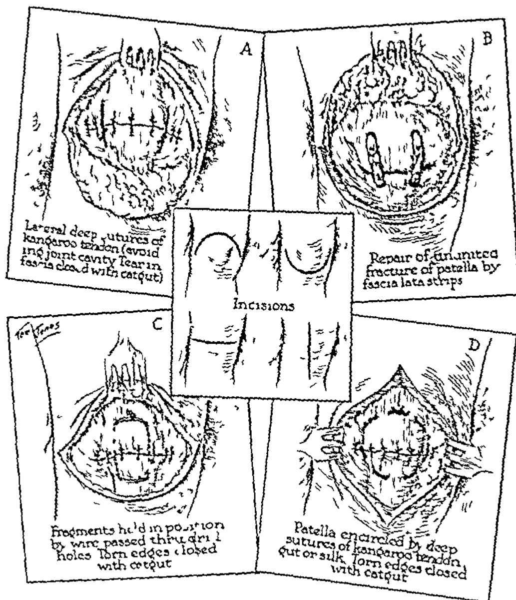
TENDON LENGTHENING AND SHORTENING

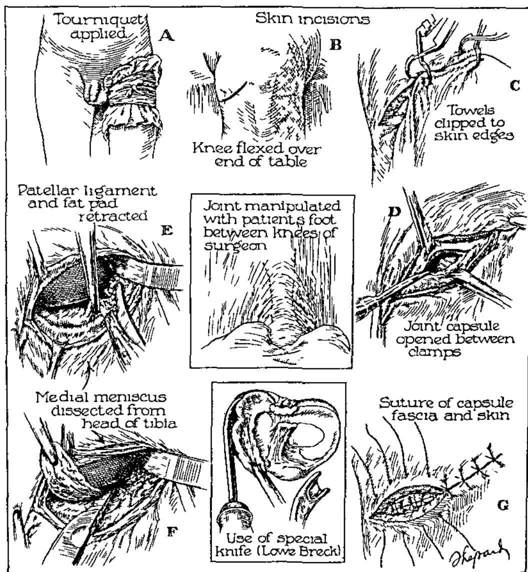


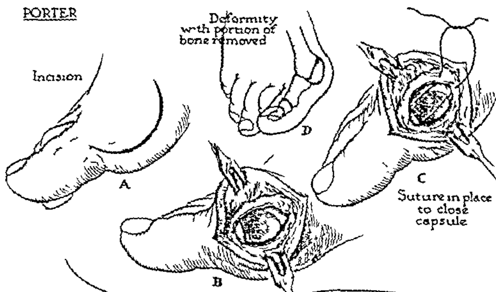
REPAIR OF RECURRENT DISLOCATION OF PATELLA

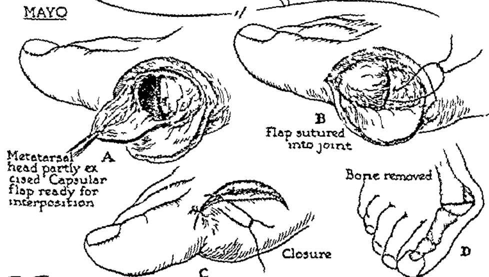


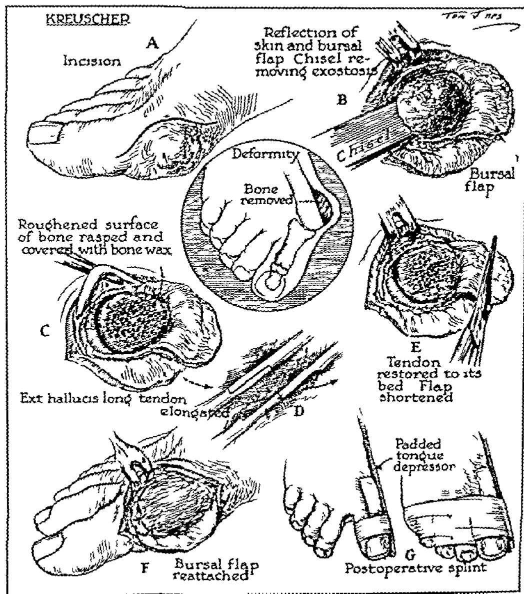
REPAIR OF FRACTURED PATELLA



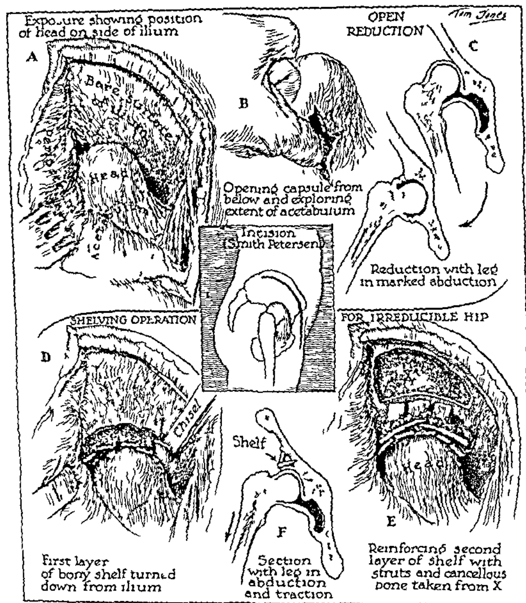

Tourniquet applied
A
Skin incisions
B
Knee flexed over end of table
C
Towels clipped to skin edges
Patellar ligament and fat pad retracted
E
Joint manipulated with patient's foot between knees of surgeon
D
Joint capsule opened between clamps
Medial meniscus dissected from head of tibia
F
Use of special knife (Lowe Breck)
Suture of capsule fascia and skin
G
Shepard


PORTER
Incision
A
Deformity with portion of bone removed
D
C
Suture in place to close capsule
B

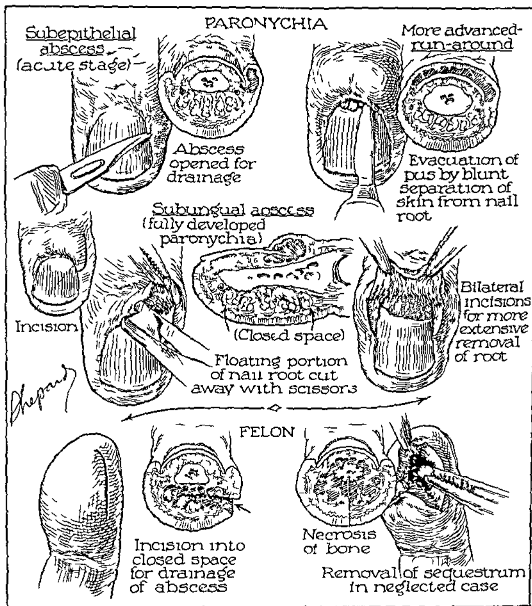

MAYO
Metatarsal head partly excised Capsular flap ready for interposition
A
B
Flap sutured into joint
Bone removed
C
Closure
D


KREUSCHER
A
Incision
Reflection of skin and bursal flap Chisel removing exostosis
B
Chisel
Bursal flap
Deformity
Bone removed
Roughened surface of bone rasped and covered with bone wax
C
E
Tendon restored to its bed Flap shortened
Ext hallucis long tendon elongated
D
Padded tongue depressor
F
Bursal flap reattached
G
Postoperative splint

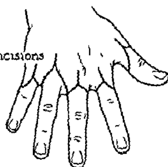
OPERATION FOR CONGENITAL DISLOCATED HIP

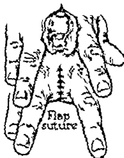


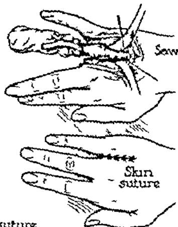
SURGICAL TREATMENT FOR PARONYCHIA AND FELON



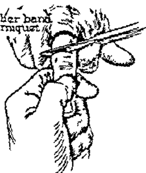
METACARPOPHALANGEAL DISARTICULATION AND AMPUTATION PROXIMAL TO THE METACARPAL HEAD

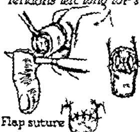


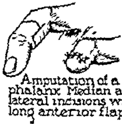




INTERPHALANGEAL DISARTICULATION







Amputation of a phalanx. Median and lateral incisions with long anterior flap

DISARTICULATION OF THE TOES



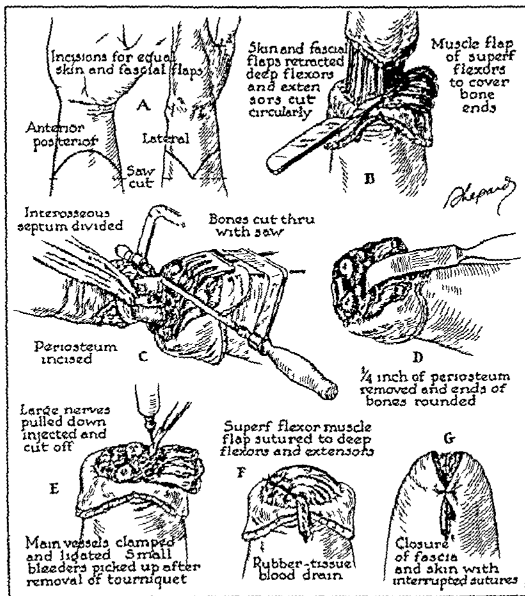
Amputation of the five toes



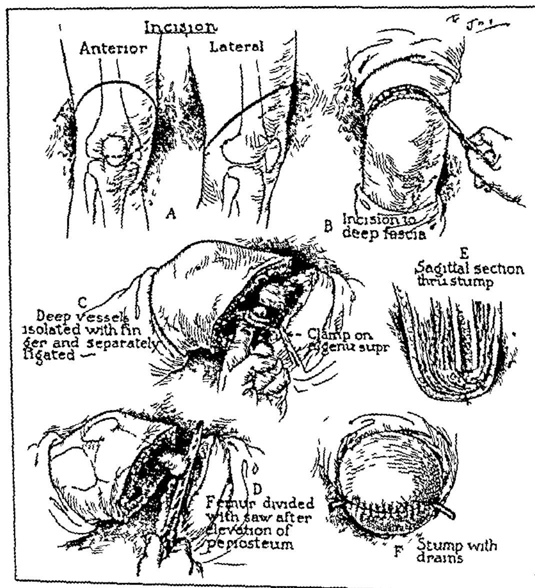
Suture of skin flap



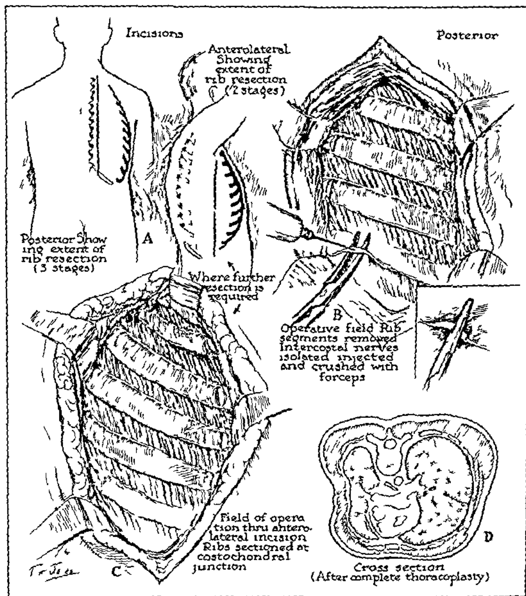
Incisions for removal of individual toes

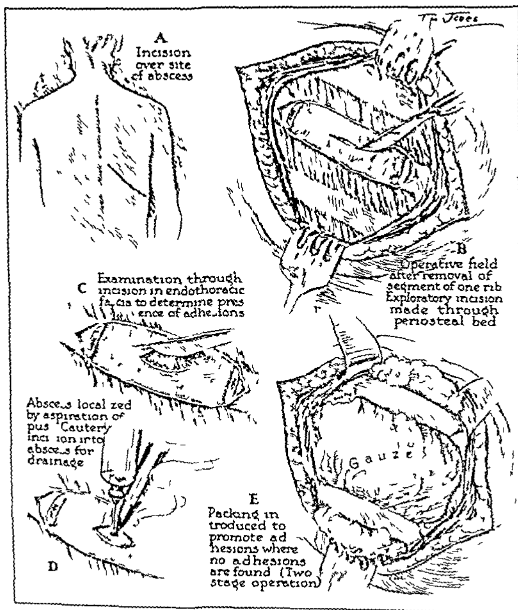

Incisions for equal skin and fascial flaps
A
Anterior posterior
Lateral
Saw cut
Skin and fascial flaps retracted deep flexors and extensors cut circularly
Muscle flap of superf flexors to cover bone ends
B
Shepard
Interosseous septum divided
Bones cut thru with saw
Periosteum incised
C
D
¼ inch of periosteum removed and ends of bones rounded
Large nerves pulled down injected and cut off
E
Superf flexor muscle flap sutured to deep flexors and extensors
F
G
Main vessels clamped and ligated Small bleeders picked up after removal of tourniquet
Rubber-tissue blood drain
Closure of fascia and skin with interrupted sutures

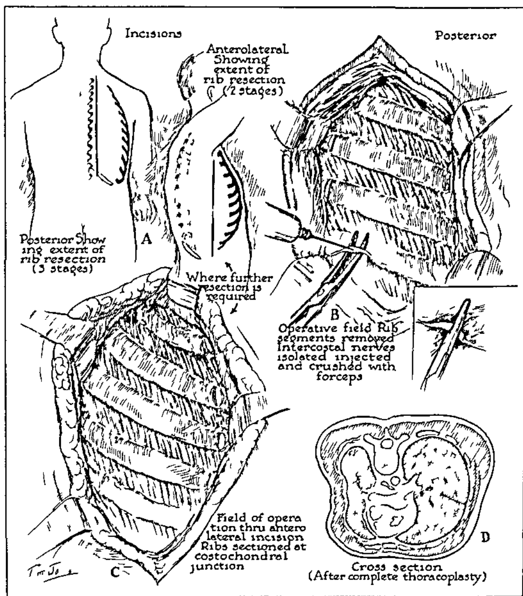
AMPUTATION FOR GANGRENE OF LOWER EXTREMITY



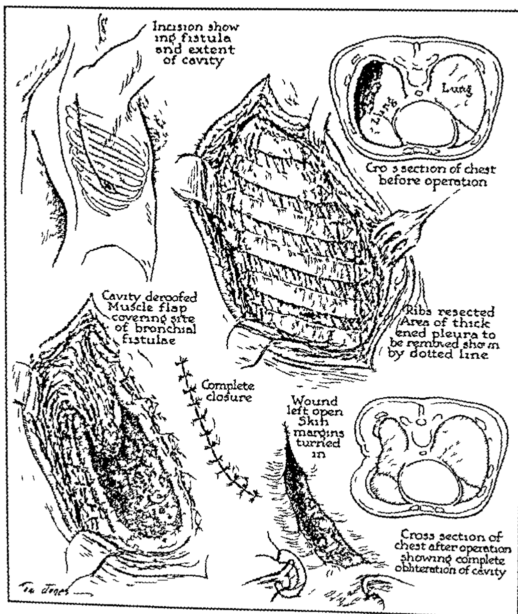
THORACOPLASTY



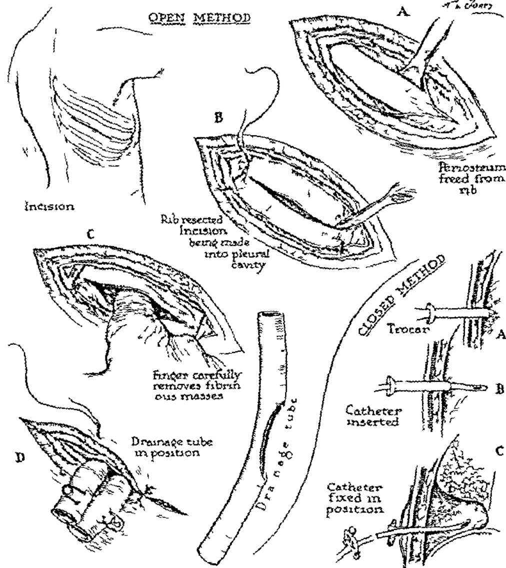

A
Incision over site of abscess
B
Operative field after removal of segment of one rib Exploratory incision made through periosteal bed
C
Examination through incision in endothoracic fascia to determine presence of adhesions
Abscess localized by aspiration of pus Cautery incision into abscess for drainage
D
Gauze
E
Packing introduced to promote adhesions where no adhesions are found (Two stage operation)


Incisions
Posterior
Anterolateral
Showing
extent of
rib resection
(2 stages)
Posterior Show
ing extent of
rib resection
(3 stages)
A
Where further
resection is
required
B
Operative field Rib
segments removed
Intercostal nerves
isolated injected
and crushed with
forceps
Field of opera
tion thru antero
lateral incision
Ribs sectioned at
costochondral
junction
C
D
Cross section
(After complete thoracoplasty)

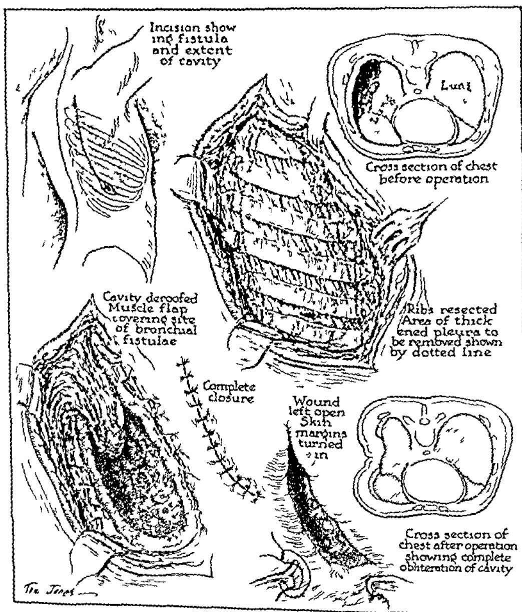
SURGICAL TREATMENT OF ACUTE EMPYEMA

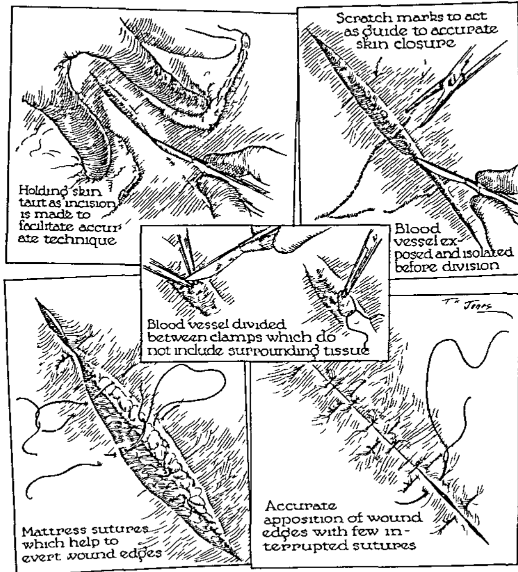


SURGICAL TREATMENT OF ACUTE EMPYEMA

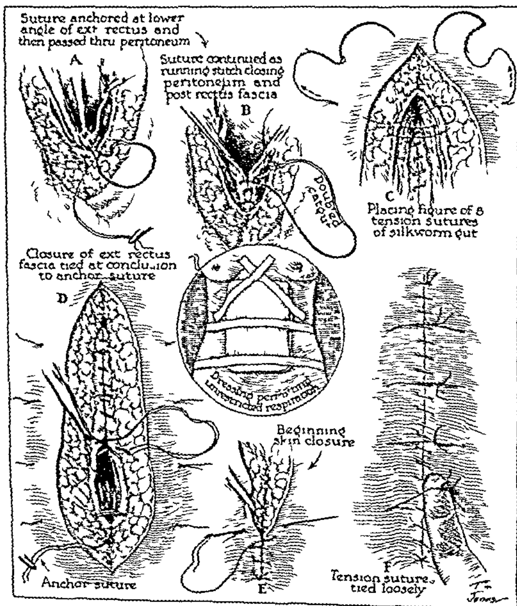


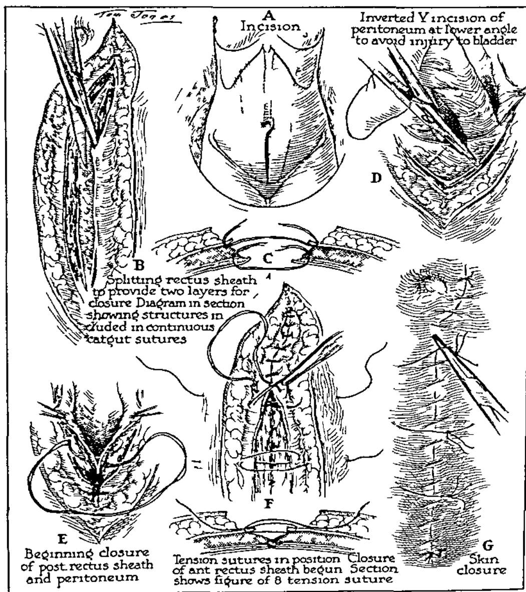
SURGICAL TREATMENT OF ACUTE EMPYEMA

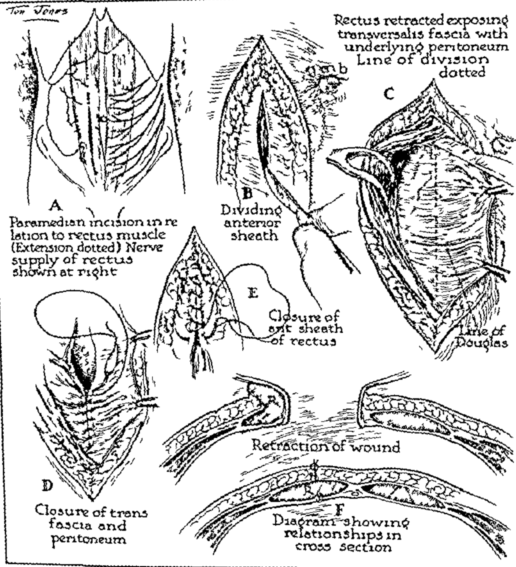



Holding skin
taut as incision
is made to
facilitate accur
ate technique
Scratch marks to act
as guide to accurate
skin closure
Blood
vessel ex-
posed and isolated
before division
Blood vessel divided
between clamps which do
not include surrounding tissue
Mattress sutures
which help to
evert wound edges
Accurate
apposition of wound
edges with few in-
terrupted sutures

CLOSURE OF RECTUS INCISION

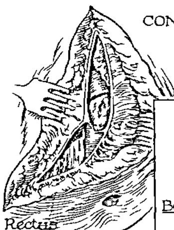


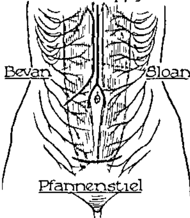

Tom Jones
A
Incision
Inverted Y incision of peritoneum at lower angle to avoid injury to bladder
D
B
C
Splitting rectus sheath to provide two layers for closure Diagram in section showing structures included in continuous catgut sutures
F
E
Beginning closure of post. rectus sheath and peritoneum
Tension sutures in position Closure of ant rectus sheath begun Section shows figure of 8 tension suture
G
Skin closure

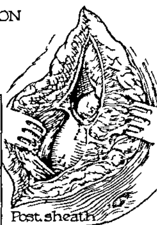

Tom Jones
Rectus retracted exposing transversalis fascia with underlying peritoneum Line of division dotted
C
A
Paramedian incision in relation to rectus muscle (Extension dotted) Nerve supply of rectus shown at right
B
Dividing anterior sheath
E
Closure of ant sheath of rectus
Line of Douglas
D
Closure of trans fascia and peritoneum
Retraction of wound
F
Diagram showing relationships in cross section

CONSERVING INNERVATION OF THE RECTI

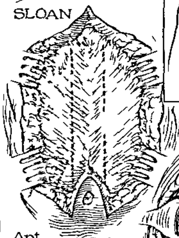
BEVAN (Gall bladder on right side spleen on left)

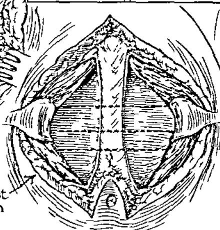




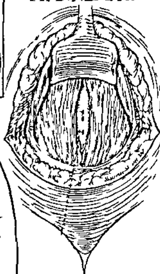


SLOAN



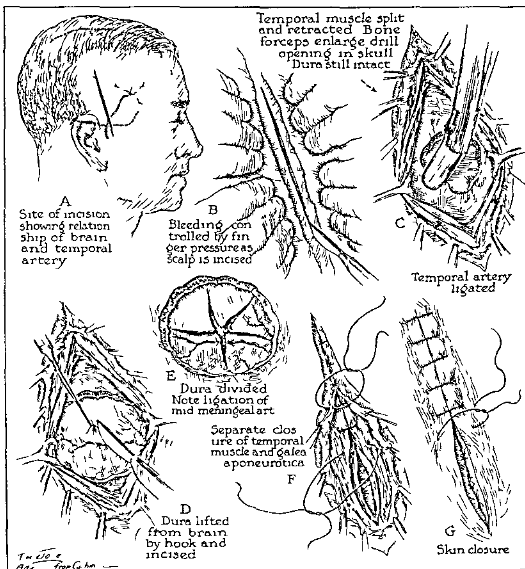


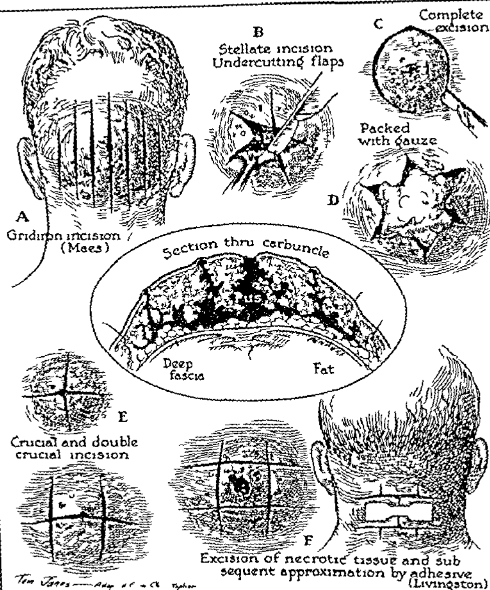
PFANNENSTIEL



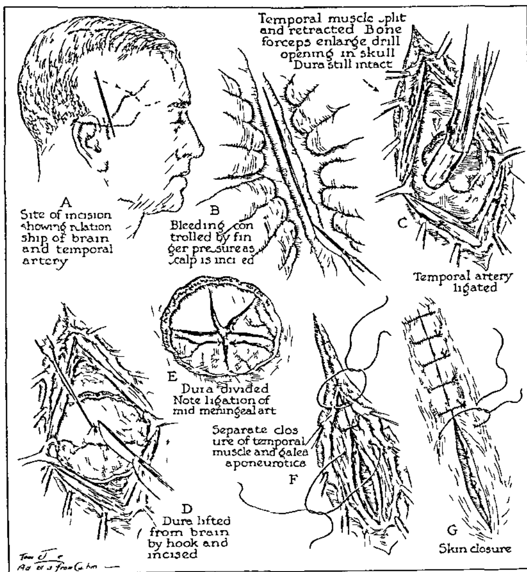
OPERATION FOR TORTICOLLIS



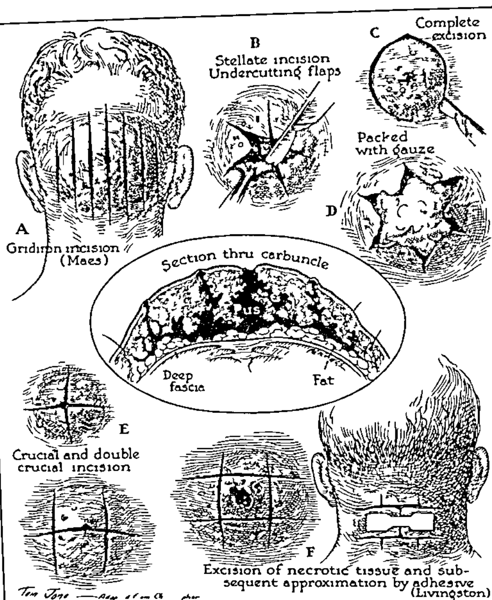

A
Site of incision showing relation ship of brain and temporal artery
B
Bleeding con trolled by fin ger pressure as scalp is incised
Temporal muscle split and retracted Bone forceps enlarge drill opening in skull Dura still intact
C
Temporal artery ligated
D
Dura lifted from brain by hook and incised
E
Dura divided
Note ligation of mid meningeal art
Separate clos ure of temporal muscle and galea aponeurotica
F
G
Skin closure



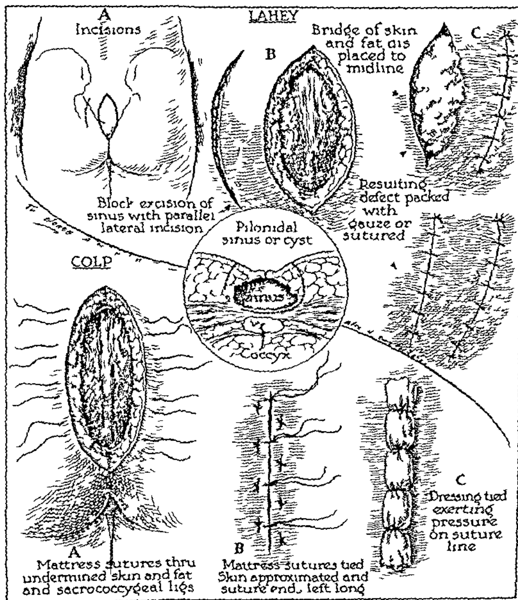
A
Gridiron incision
(Maes)
B
Stellate incision
Undercutting flaps
C
Complete excision
Packed with gauze
D
Section thru carbuncle
Deep fascia
Fat
E
Crucial and double crucial incision
F
Excision of necrotic tissue and subsequent approximation by adhesive
(Livingston)


Temporal muscle split and retracted Bone forceps enlarge drill opening in skull Dura still intact
A
Site of incision showing relation ship of brain and temporal artery
B
Bleeding controlled by finger pressure as scalp is incised
C
Temporal artery ligated
E
Dura divided Note ligation of mid meningeal art
D
Dura lifted from brain by hook and incised
Separate closure of temporal muscle and galea aponeurotica
F
G
Skin closure

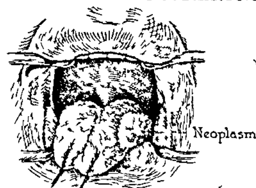
SURGICAL TREATMENT OF CARBUNCLE

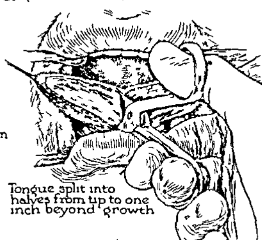


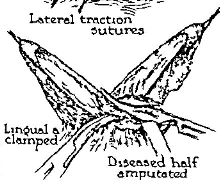
OPERATIVE TREATMENT OF PILONIDAL SINUS

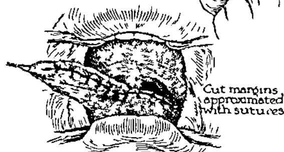


RESECTION OF LATERAL HALF OF TONGUE FOR MALIGNANCY (WHITEHEAD)

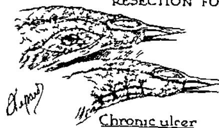


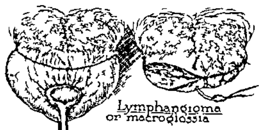


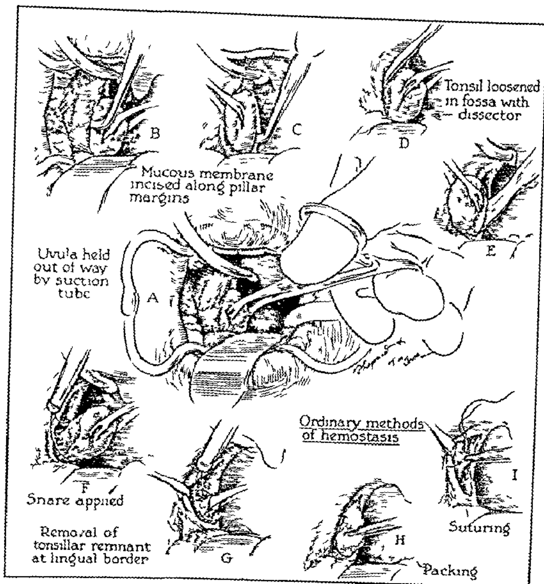


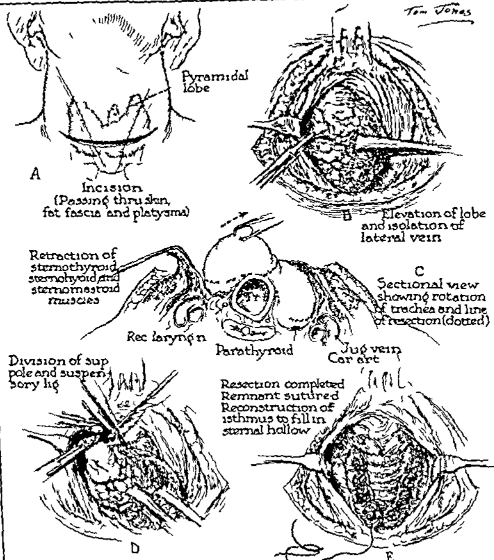


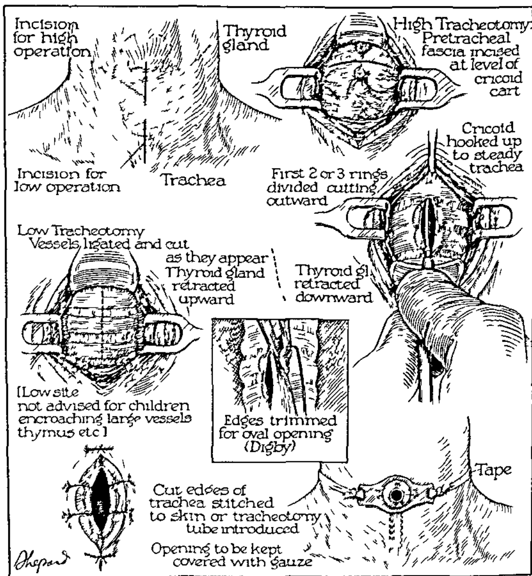
RESECTION FOR NON MALIGNANCY



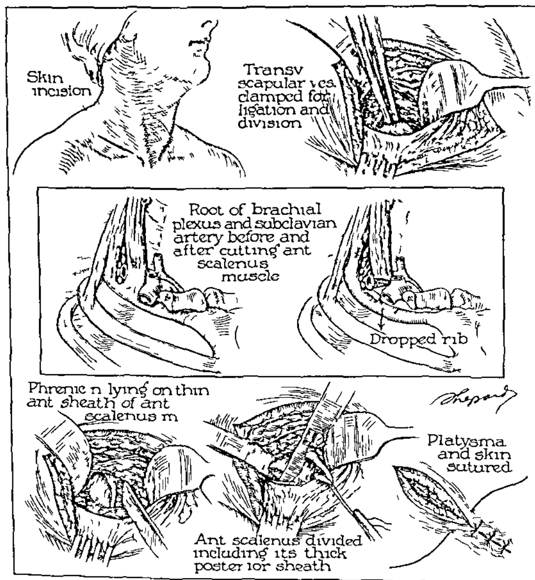


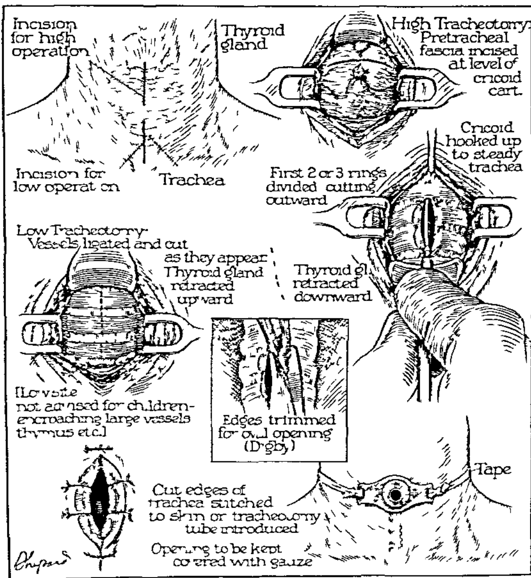

B
C
Tonsil loosened
in fossa with
dissector
D
Mucous membrane
incised along pillar
margins
E
Uvula held
out of way
by suction
tube
A
F
Snare applied
Removal of
tonsillar remnant
at lingual border
G
Ordinary methods
of hemostasis
I
Suturing
H
Packing

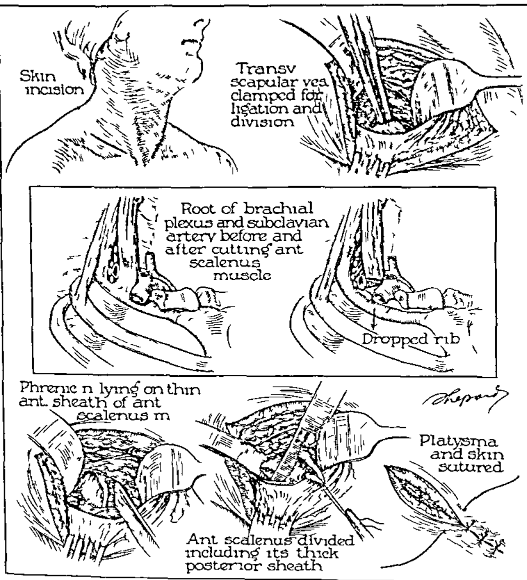

Tom Jones
Pyramidal lobe
A
Incision
(Passing thru skin, fat fascia and platysma)
B
Elevation of lobe and isolation of lateral vein
Retraction of sternothyroid, sternohyoid and sternomastoid muscles
C
Sectional view showing rotation of trachea and line of resection (dotted)
Rec laryng n
Parathyroid
Jug vein
Car art
Division of sup pole and suspensory lig
D
Resection completed
Remnant sutured
Reconstruction of isthmus to fill in sternal hollow
E

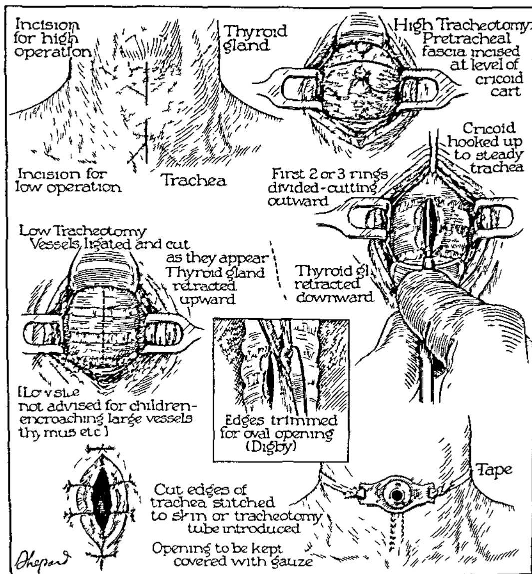


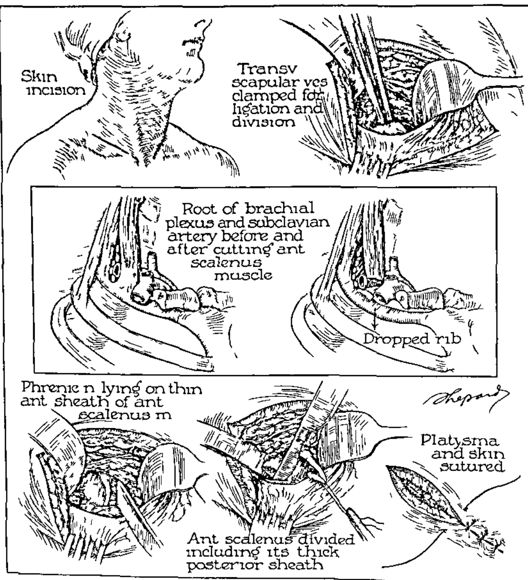
Incision for high operation
Thyroid gland
High Tracheotomy: Pretracheal fascia incised at level of cricoid cart
Cricoid hooked up to steady trachea
Incision for low operation
Trachea
First 2 or 3 rings divided cutting outward
Low Tracheotomy Vessels ligated and cut as they appear
Thyroid gland retracted upward
Thyroid gl retracted downward
[Low site not advised for children encroaching large vessels thymus etc]
Edges trimmed for oval opening (Digby)
Tape
Cut edges of trachea stitched to skin or tracheotomy tube introduced
Opening to be kept covered with gauze
Shepard

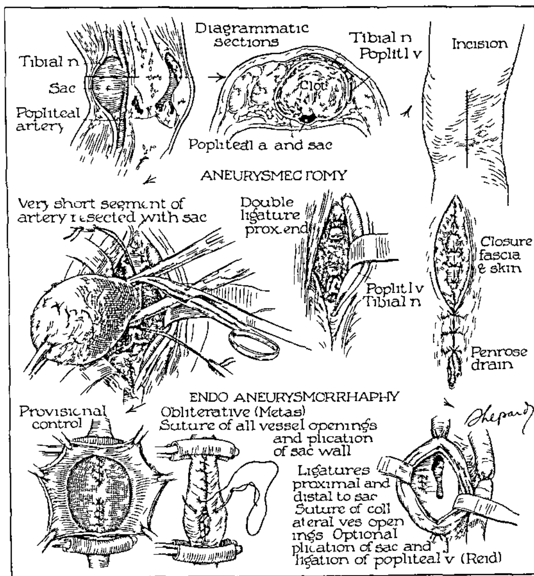

Skin
incision
Transv
scapular ves.
clamped for
ligation and
division
Root of brachial
plexus and subclavian
artery before and
after cutting ant
scalenus
muscle
Dropped rib
Phrenic n lying on thin
ant sheath of ant
scalenus m
Platysma
and skin
sutured
Ant scalenus divided
including its thick
posterior sheath

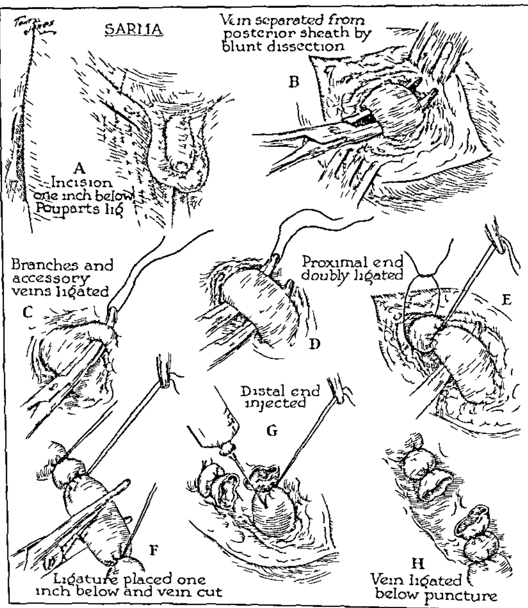

Incision for high operation
Thyroid gland
High Tracheotomy: Pretracheal fascia incised at level of cricoid cart.
Incision for low operation
Trachea
Cricoid hooked up to steady trachea
First 2 or 3 rings divided cutting outward
Low Tracheotomy: Vessels ligated and cut as they appear. Thyroid gland retracted upward
Thyroid gl. retracted downward
Edges trimmed for oval opening (Digby)
Tape
Cut edges of trachea stitched to skin or tracheotomy tube introduced
Opening to be kept covered with gauze

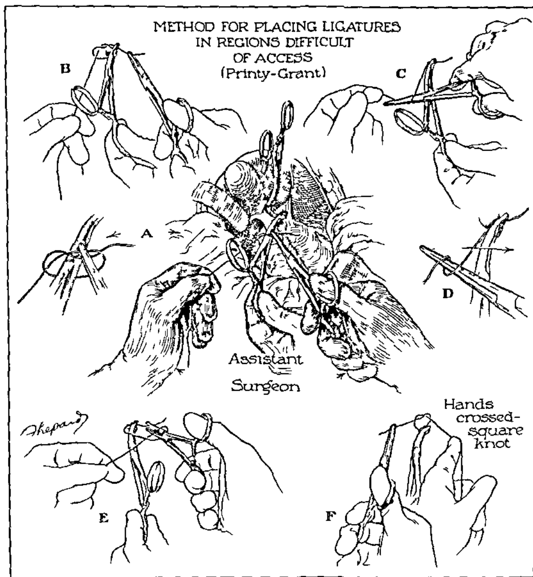

Skin incision
Transv scapular ves clamped for ligation and division
Root of brachial plexus and subclavian artery before and after cutting ant scalenus muscle
Dropped rib
Phrenic n lying on thin ant. sheath of ant scalenus m
Platysma and skin sutured
Ant scalenus divided including its thick posterior sheath

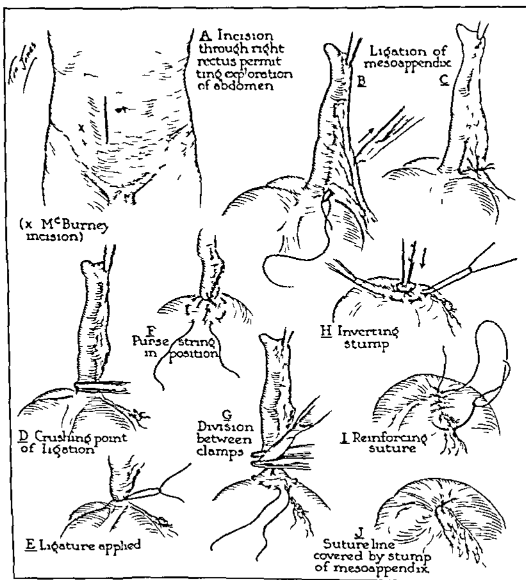

Incision for high operation
Thyroid gland
High Tracheotomy: Pretracheal fascia incised at level of cricoid cart
Incision for low operation
Trachea
Cricoid hooked up to steady trachea
First 2 or 3 rings divided-cutting outward
Low Tracheotomy
Vessels ligated and cut as they appear
Thyroid gland retracted upward
Thyroid gl retracted downward
[Low site not advised for children-encroaching large vessels thymus etc]
Edges trimmed for oval opening (Digby)
Tape
Cut edges of trachea stitched to skin or tracheotomy tube introduced
Opening to be kept covered with gauze
Shepard

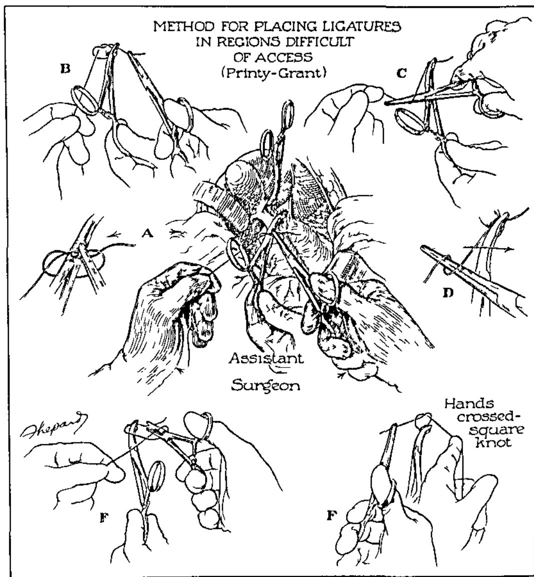

Skin incision
Transv scapular ves clamped for ligation and division
Root of brachial plexus and subclavian artery before and after cutting ant scalenus muscle
Dropped rib
Phrenic n lying on thin ant sheath of ant scalenus m
Platysma and skin sutured
Ant scalenus divided including its thick posterior sheath


Diagrammatic sections
Tibial n
Sac
Popliteal artery
Tibial n
Poplit l v
Clot
Popliteal a and sac
Incision
ANEURYSMECTOMY
Very short segment of artery resected with sac
Double ligature prox. end
Poplit l v
Tibial n
Closure fascia & skin
Penrose drain
ENDO ANEURYSMORRHAPHY
Provisional control
Obliterative (Metas)
Suture of all vessel openings and plication of sac wall
Ligatures proximal and distal to sac
Suture of coll ateral ves openings Optional plication of sac and ligation of popliteal v (Reid)
Shepard

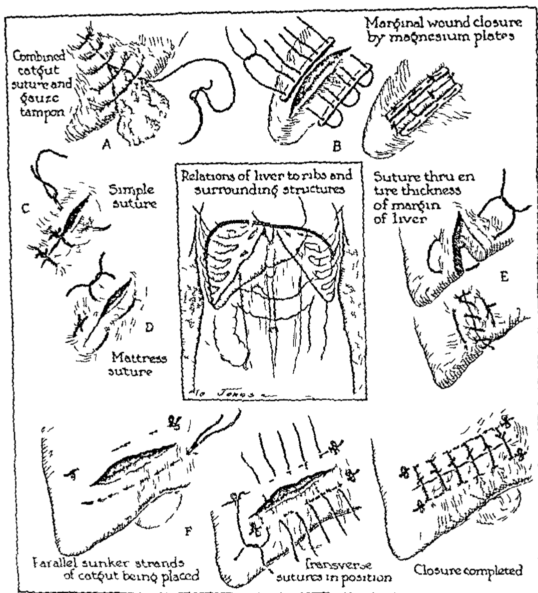

SARMA
Vein separated from posterior sheath by blunt dissection
B
A
Incision one inch below Pouparts lig
Branches and accessory veins ligated
C
Proximal end doubly ligated
D
E
Distal end injected
G
F
Ligature placed one inch below and vein cut
H
Vein ligated below puncture

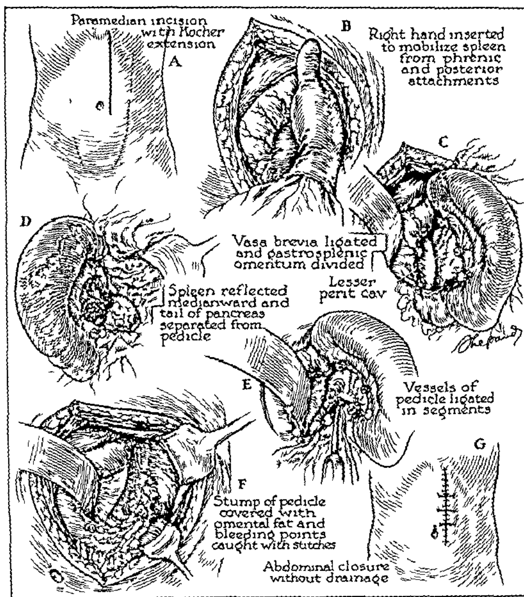

METHOD FOR PLACING LIGATURES
IN REGIONS DIFFICULT
OF ACCESS
(Printy-Grant)
B
C
A
D
Assistant
Surgeon
Hands
crossed-
square
knot
E
F


A Incision
through right
rectus permitting exploration
of abdomen
(x McBurney
incision)
Ligation of
mesoappendix
B
C
D Crushing point
of ligation
E Ligature applied
F
Purse string
in position
G
Division
between
clamps
H Inverting
stump
I Reinforcing
suture
J
Suture line
covered by stump
of mesoappendix

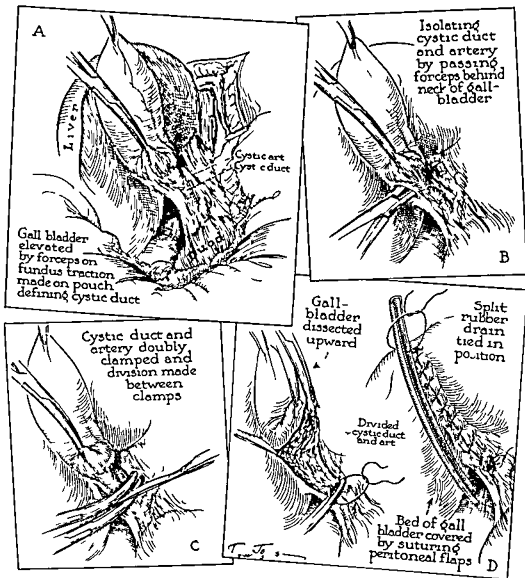

METHOD FOR PLACING LIGATURES
IN REGIONS DIFFICULT
OF ACCESS
(Printy-Grant)
B
C
A
D
Assistant
Surgeon
F
F
Hands
crossed-
square
knot

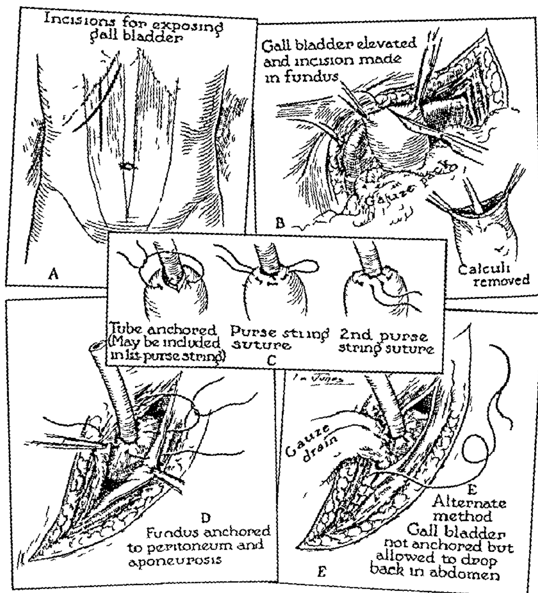
LIVER SUTURES




Paramedian incision with Kocher extension
A
B
Right hand inserted to mobilize spleen from phrenic and posterior attachments
C
D
Vasa brevia ligated and gastrosplenic omentum divided
Lesser perit cav
Spleen reflected medianward and tail of pancreas separated from pedicle
E
Vessels of pedicle ligated in segments
G
F
Stump of pedicle covered with omental fat and bleeding points caught with sutches
Abdominal closure without drainage

CHOLECYSTECTOMY




Incisions for exposing gall bladder
A
Gall bladder elevated and incision made in fundus
Gauze pack
B
Calculi removed
Tube anchored (May be included in 1st purse string)
Purse string suture
2nd purse string suture
C
D
Fundus anchored to peritoneum and aponeurosis
Gauze drain
E
Alternate method
Gall bladder not anchored but allowed to drop back in abdomen
E

OPERATIONS ON BILIARY TRACT (No 2)

HEPATICODUODENOSTOMY

Direct
Gatewood's case

Posterior and lateral sutures placed duodenum & hepatic duct incised

Modified Direct
(W J Mayo)

Flap from crescent-shaped incision

Post and latrl sutures

T tube

Ant sutures

Plastic
(Walton)

Flap sutured to liver capsule

Indirect
(Jenckel)

Duod opening closed around tube

Long flap

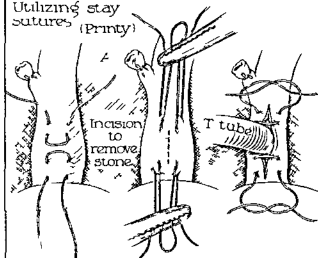
Witzel duodenostomy

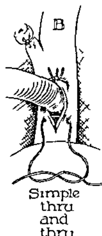
Exposed tube to be covered with adjacent tissues & omentum

Flap sutured over tube to duodenum & duct

(Tube removed after epithelial outgrowth has lined new canal)

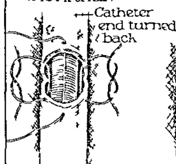
SUTURE OF THE COMMON DUCT AFTER REMOVAL OF STONE

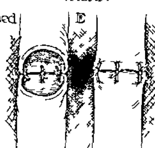


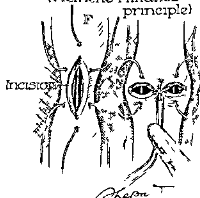


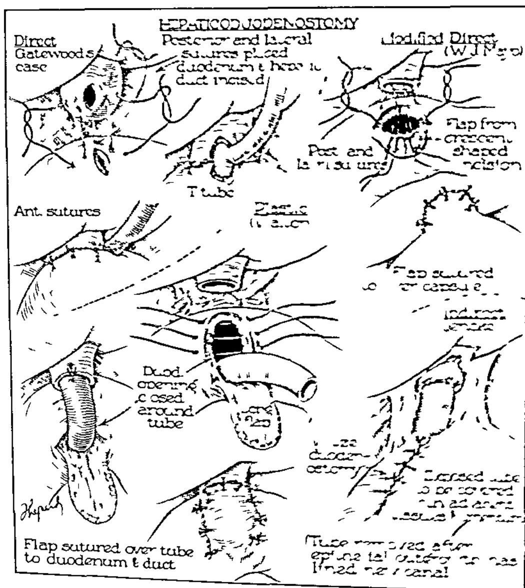


REPAIR OF INJURIES TO DUCT
(with or without drainage)

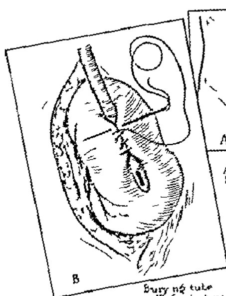




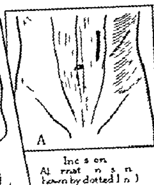




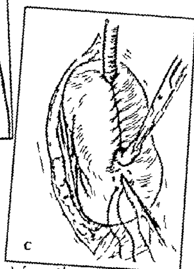
Direct
Gatewood's
case
Post and
T tube
Ant. sutures
Duod.
opening
around
tube
Flap sutured over tube
to duodenum & duct



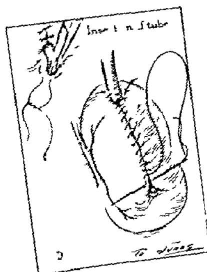
Bury ng tube
w ll of rt t ne

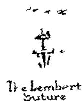


Inc s on
Al rnat n s n
hown by dotted l n)



Method of opening
nte t e f insert on of cathet r

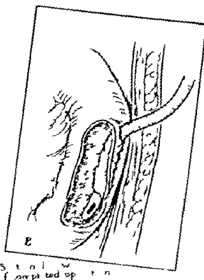




The Lembert
Suture

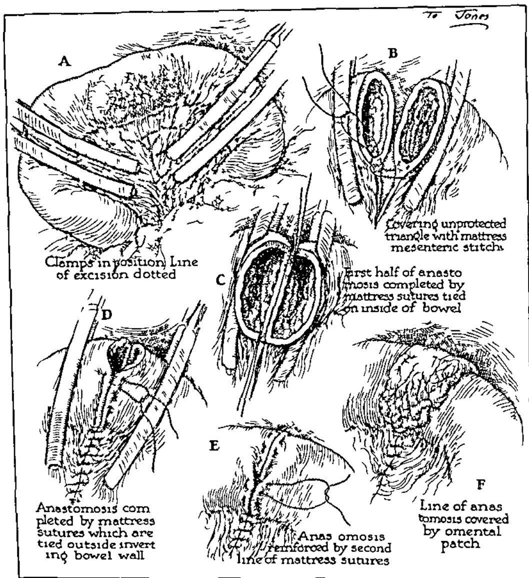
C mpart e f
l re by con
b serosa

A ow st or
fixa n f t le
ry le t h

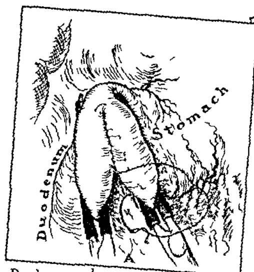


S t n l w
f omp l ted op t n

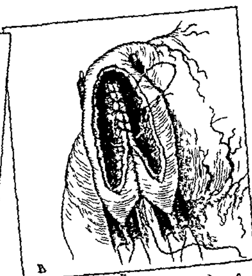
END TO END ENTERO ENTEROSTOMY
(DYAS)



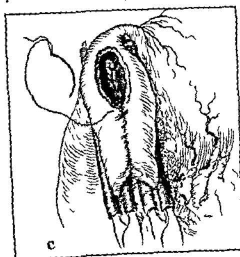
GASTRODUODENOSTOMY
(FINNEY'S TECHNIQUE)



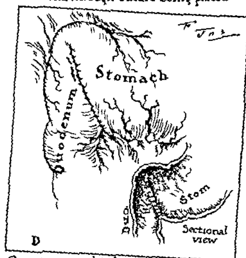
Duodenum and stomach clamped F rst line of sutures be ng placed Incision shown by dotted line



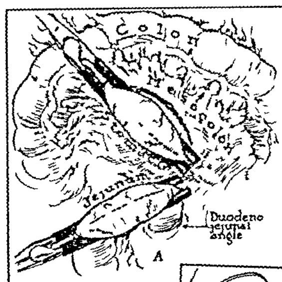
First or posterior line of sutures completed Inner through and through suture being placed



Anterior tier of sutures nearly completed



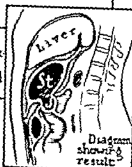
Operation completed
Outer line of seromus ular sutures seen

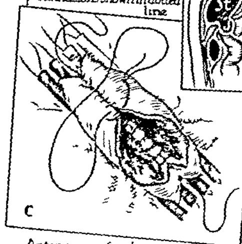


Stomach drawn thru slit meso colon, clamped & ready for approximation with fold of jejunum Proposed incisions shown in dotted line

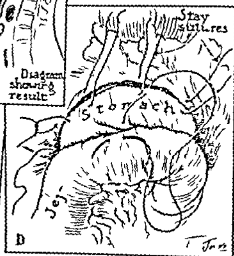


Posterior sero muscular suture placed Posterior marginal suture being placed



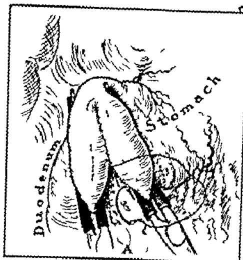


Anterior marginal suture



Anterior seromuscular suture

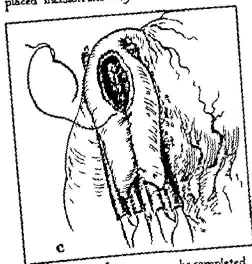
GASTRODUODENOSTOMY
(FINNEY'S TECHNIQUE)



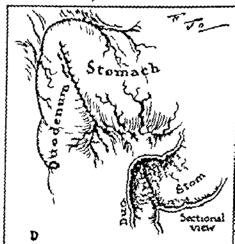
Duodenum and stomach clamped First line of sutures being placed Incision shown by dotted line



First or posterior line of sutures completed Inner through and through suture being placed



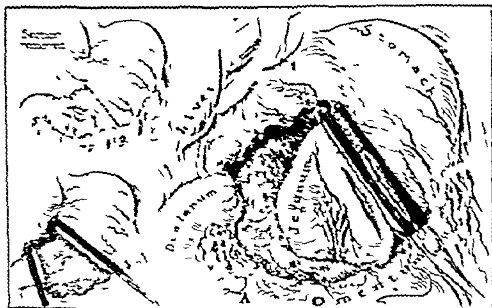
Anterior tier of sutures ne rly completed



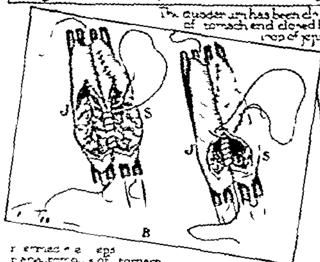
Operation compl ted
Outer line of seromuscular sutures seen

PARTIAL RESECTION OF STOMACH

(POLYA)



The duodenum has been ch[illegible]ed by [illegible] Upper [illegible] of stomach end closed by [illegible] Anastomo[illegible] between [illegible] of jejunum and lower [illegible] of stomach opening begun



[illegible] eps [illegible] of stomach and [illegible]

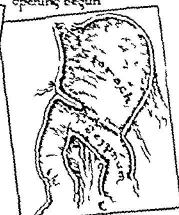
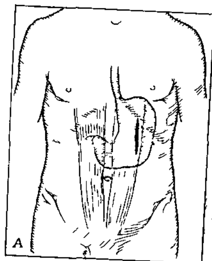
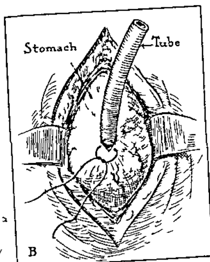


Diagram showing finished result in section

GASTROSTOMY

(STAMM METHOD)


Incision (Alternate incision shown by dotted line)

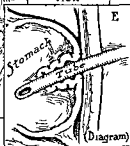


Tube fixed in stomach wall by single stitch

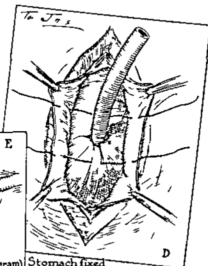



First purse string suture tied. Two others placed

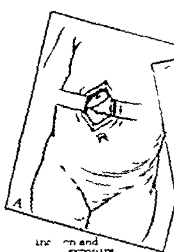
Sectional view



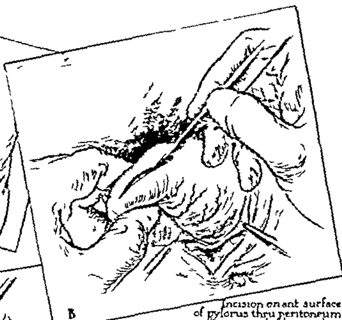
(Diagram)


Stomach fixed to ant abdominal wall

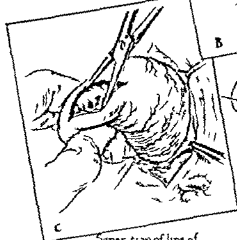
RAMMSTEDT OPERATION FOR PYLORIC STENOSIS



Inc on and exposure



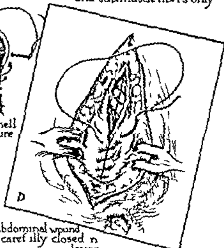
Incision on ant. surface of pylorus thru peritoneum and sub muscle fibers only



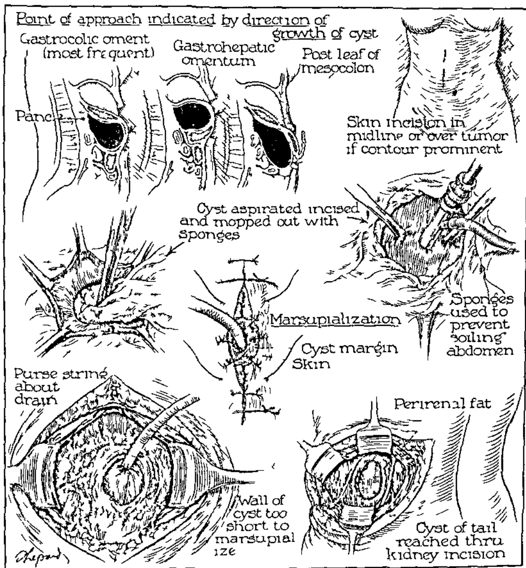
Separ tion of lips of inci ion allowing mu osa to protrude



Connell suture



Abdominal wound caref lly closed n layers


Point of approach indicated by direction of growth of cyst
Gastrocolic oment (most frequent)
Gastrohepatic omentum
Post leaf of mesocolon
Panc
Skin incision in midline or over tumor if contour prominent
Cyst aspirated incised and mopped out with sponges
Marsupialization
Cyst margin
Skin
Sponges used to prevent soiling abdomen
Purse string about drain
Perirenal fat
Wall of cyst too short to marsupialize
Cyst of tail reached thru kidney incision

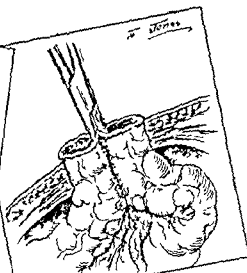
PARTIAL RESECTION OF COLON
(MIKULICZ)

Tumor

Line of excision

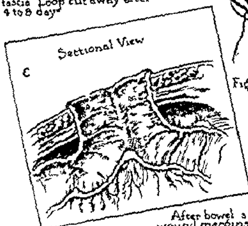
A

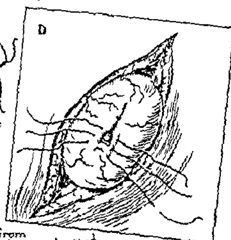
Loop of bowel sewed together and brought out through wound Note fixation to peritoneum and fascia Loop cut away after 4 to 8 days



5 to 7 days later crushing forceps lightly clamped on opposed bowel walls and tightened daily until septum is cut through

Figure of 8 suture





After bowel is freed from wound margins opening is invaginated and closed with Lembert sutures

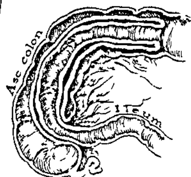
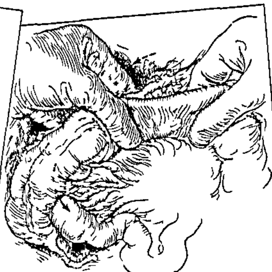
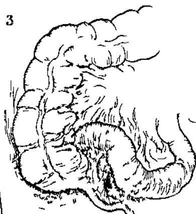


Diagram showing invagination of il um into large bowel



Technique of reduction by pressure upon head of invaginated portion



Peduct on completed

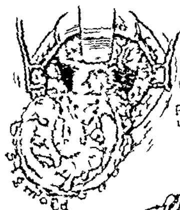


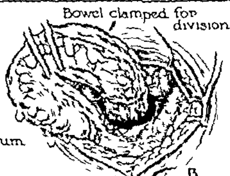
H lstead sutur

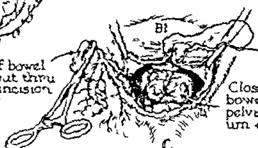
4

Suture of distal leu n to asc colon to prevent recurrence

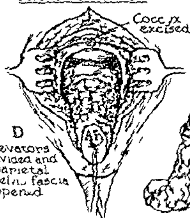
ABDOM O-PERI EAL OPERATION

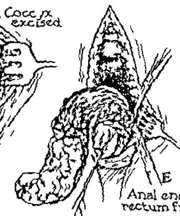


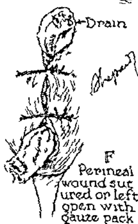




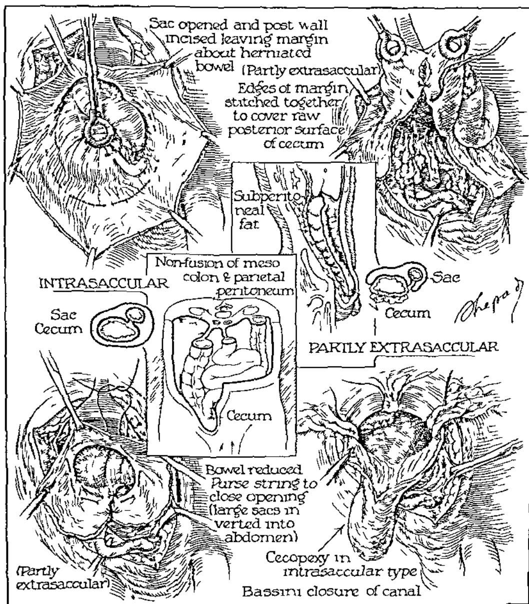
Perineal dissection

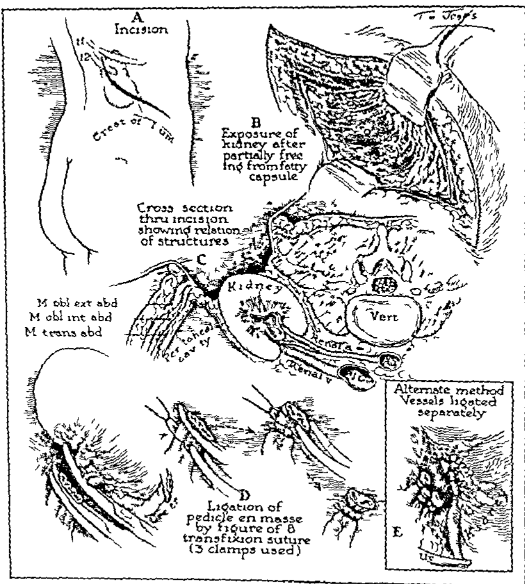




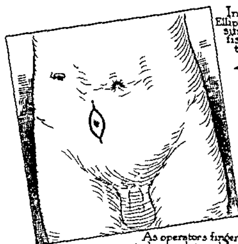


SLIDING HERNIA OF THE CECUM

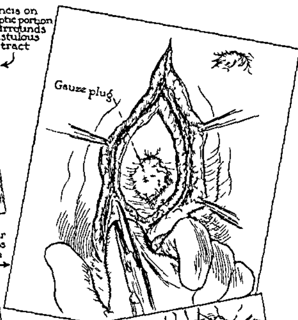



A
Incision
11
12
Crest of Ilium
B
Exposure of kidney after partially freeing from fatty capsule
Cross section thru incision showing relation of structures
C
Kidney
Vert
M obl ext abd
M obl int abd
M trans abd
Renal a
Renal v
Alternate method Vessels ligated separately
D
Ligation of pedicle en masse by figure of 8 transfixion suture (3 clamps used)
E
Ur

FECAL FISTULA



Incis on
Elliptic portion
surrounds
fistulous
tract



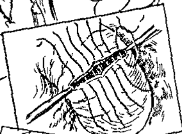
As operators finger
explores relationships
excision of tract is com
pleted by scissors



Neck of tract exposed
Cut aw y from intestine
along dotted line

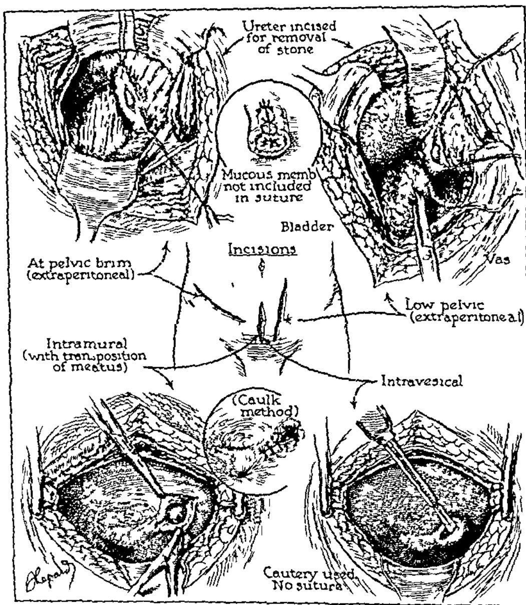


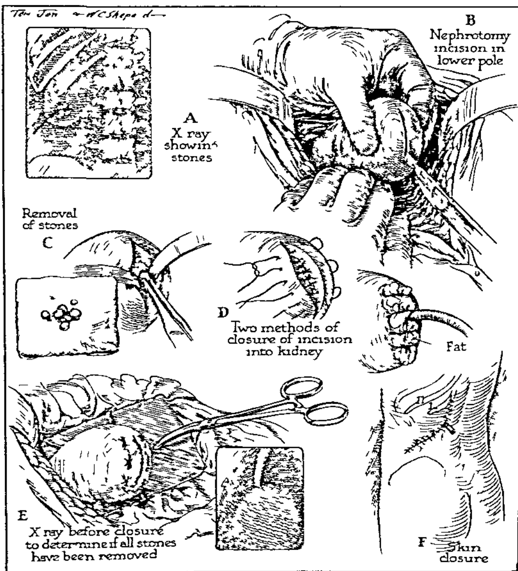
Ford
stitch



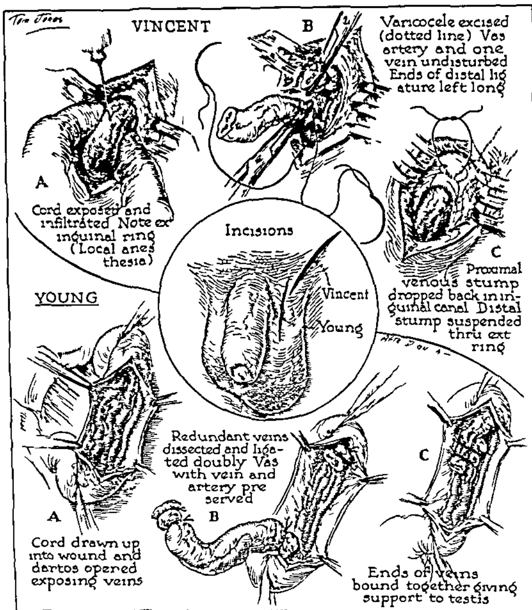
Opening into
intestine closed transversely

REMOVAL OF LOW URETERAL CALCULUS

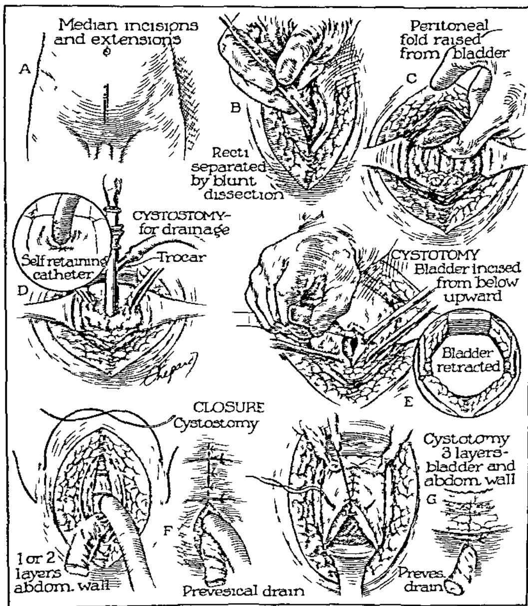


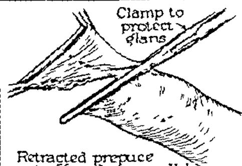

A
X ray
showing
stones
B
Nephrotomy
incision in
lower pole
Removal
of stones
C
D
Two methods of
closure of incision
into kidney
Fat
E
X ray before closure
to determine if all stones
have been removed
F
Skin
closure

OPERATIONS FOR VARICOCELE
(OR VARICOCELECTOMY)

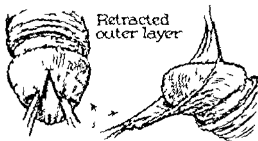


SUPRAPUBIC CYSTOSTOMY AND CYSTOTOMY





Retracted prepuce cut off in line parallel with corona



Inner layer trimmed to within one cm of corona





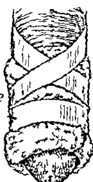
Alternate stitches of layers left long to include strip of vasalined gauze



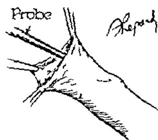
Desired result partly covered glans

SECOND METHOD

Dorsal split (Continuous suture of layers)

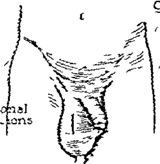


Vasalined gauze dressing

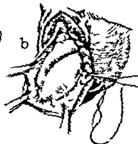


If adherent prepuce separated from glans

HYDROCELE


1


OPEN OPERATIONS
a


Tunica trimmed away
remaining margin
b




3 ANDREWS - Testicle pu hed through small opening high in sac
Sac everted upon cord
a

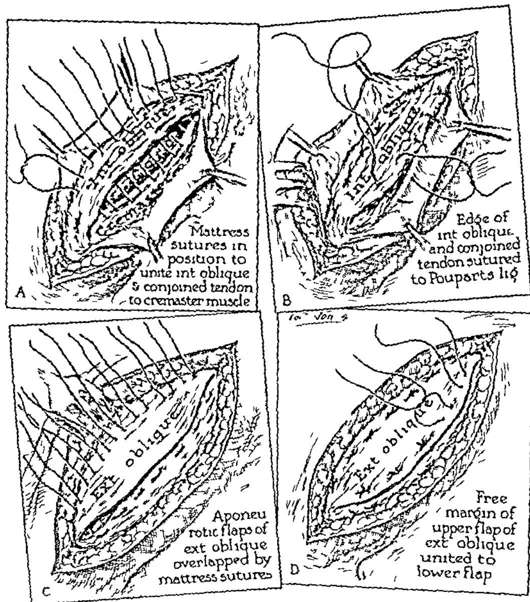

b


4
a
of fluid

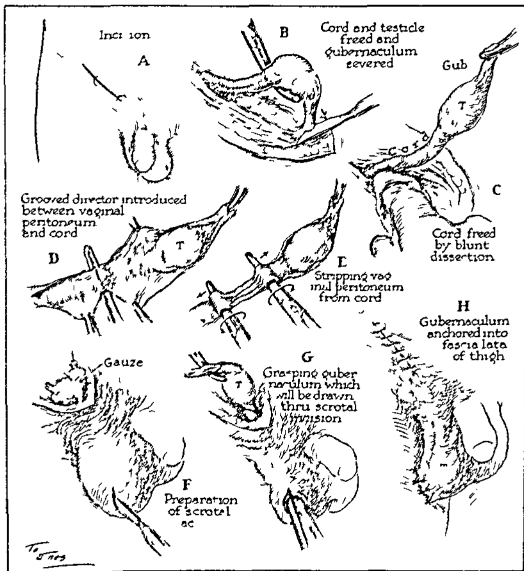

INJECTION METHOD
b
of irritant


Massage
c

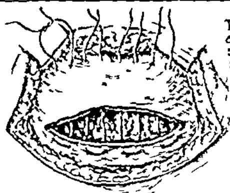
HALSTED OPERATION FOR INDIRECT INGUINAL HERNIA

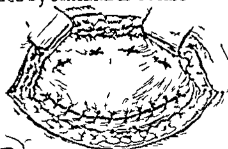


OPERATION FOR UNDESCENDED TESTIS
(McKENNA)

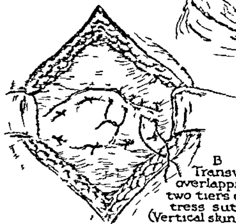


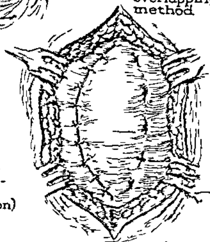
METHODS OF REPAIR IN LARGE UMBILICAL HERNIA



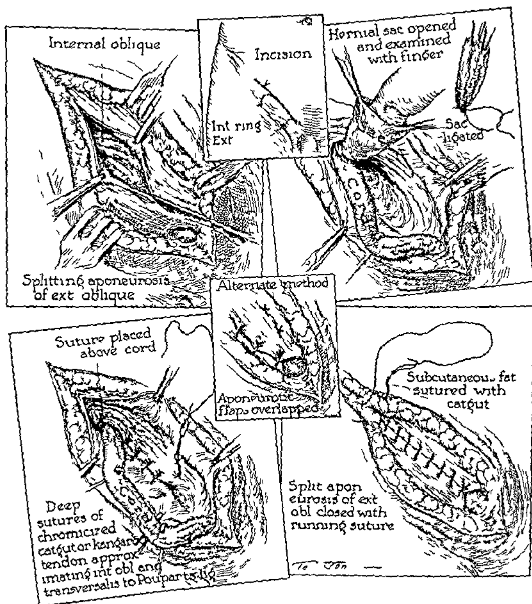




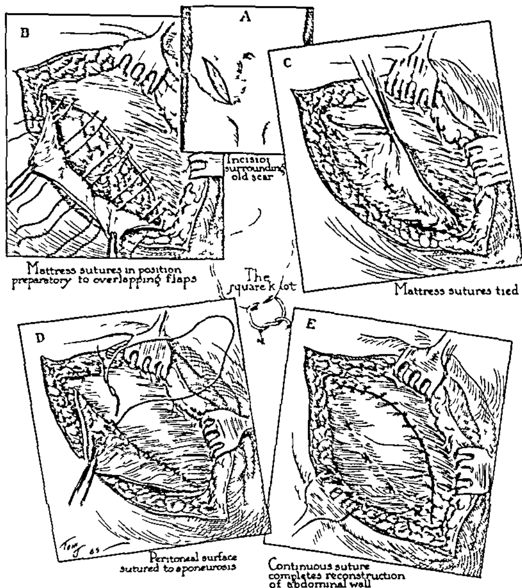


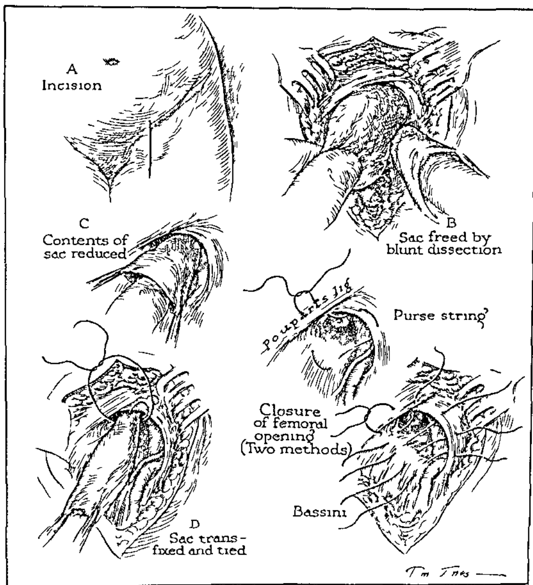


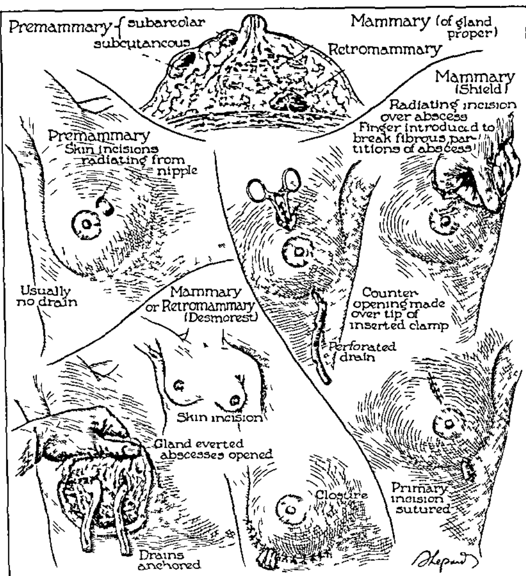
BASSINI OPERATION FOR INDIRECT INGUINAL HERNIA



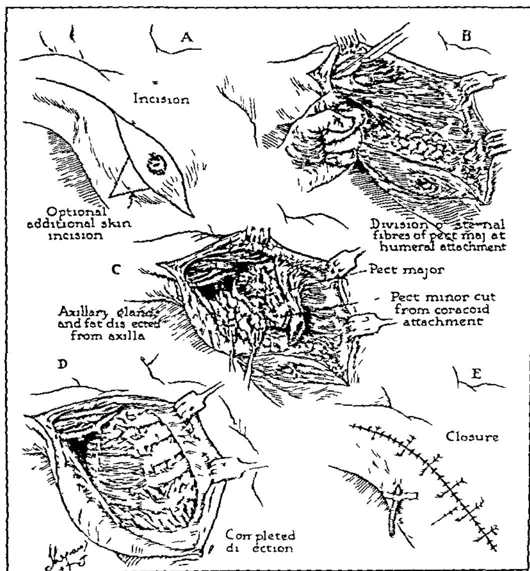
AN OPERATION FOR POSTOPERATIVE VENTRAL HERNIA (JUDD METHOD)

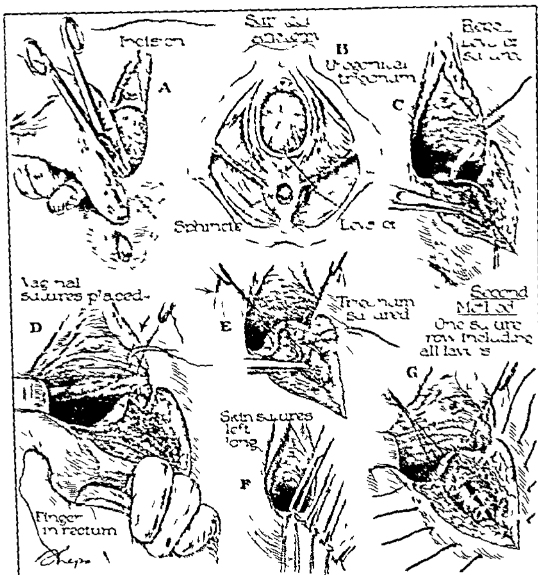


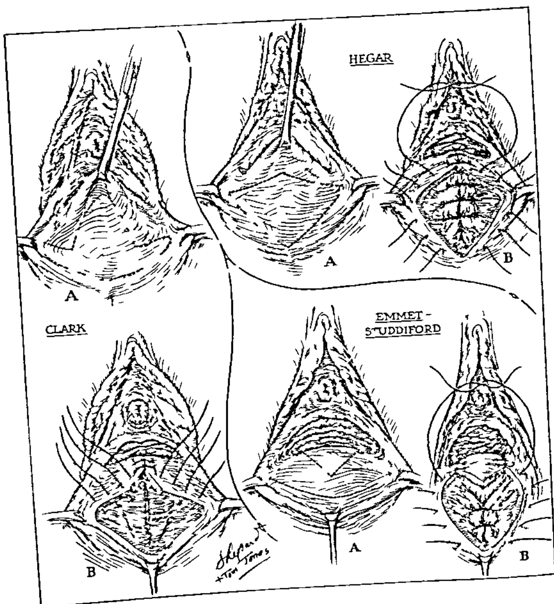

A
Incision
B
Sac freed by
blunt dissection
C
Contents of
sac reduced
Pouparts lig
Purse string
Closure
of femoral
opening
(Two methods)
Bassini
D
Sac trans-
fixed and tied

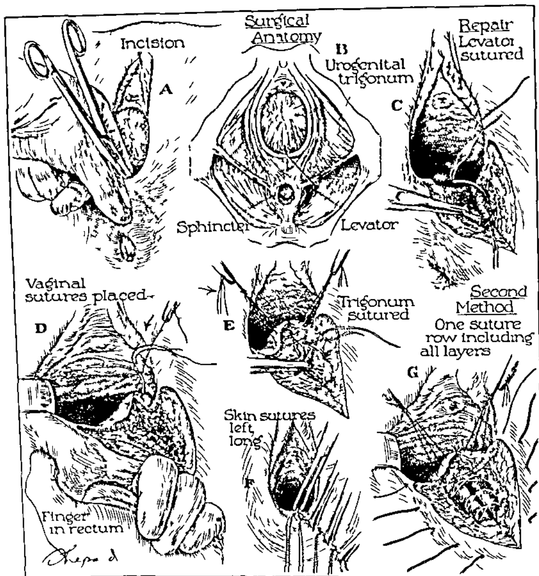


Premammary
subareolar
subcutaneous
Mammary (of gland proper)
Retromammary
Mammary (Shield)
Radiating incision over abscess
Finger introduced to break fibrous partitions of abscess
Premammary
Skin incisions radiating from nipple
Usually no drain
Mammary or Retromammary (Desmorest)
Counter opening made over tip of inserted clamp
Perforated drain
Skin incision
Gland everted abscesses opened
Closure
Primary incision sutured
Drains anchored

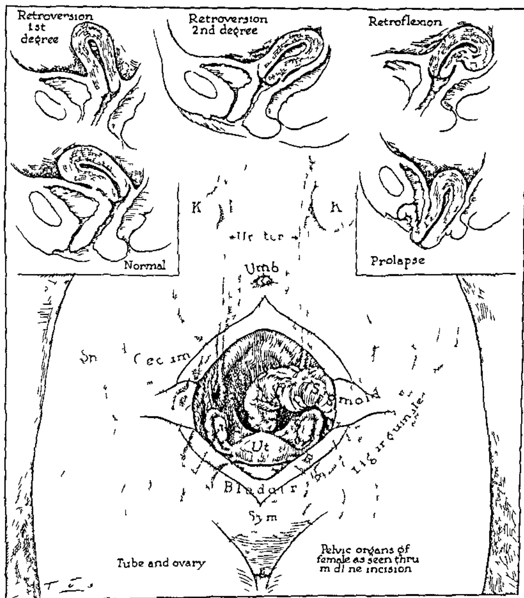

A
Incision
Optional additional skin incision
B
Division of sternal fibres of pect maj at humeral attachment
C
Pect major
Pect minor cut from coracoid attachment
Axillary glands and fat dissected from axilla
D
Completed dissection
E
Closure


A
B
C
Sphincter
D
E
F
G
Skin sutures left long
Finger in rectum

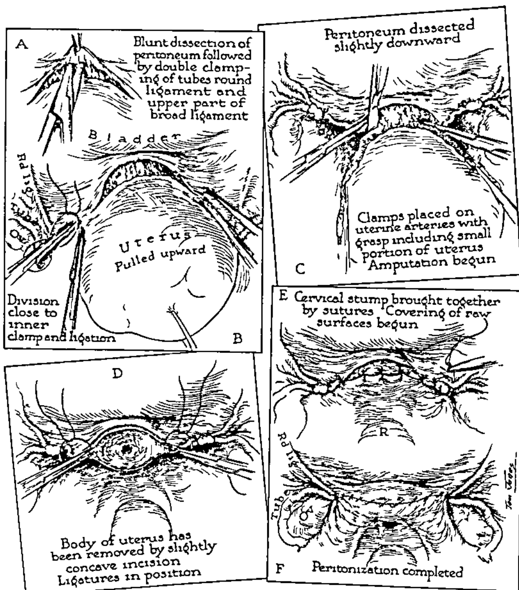

HEGAR
A
A
B
CLARK
EMMET-STUDDIFORD
B
A
B

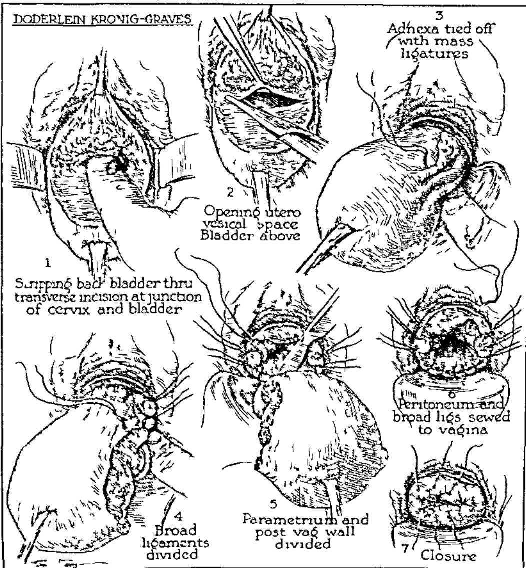

Incision
A
Surgical
Anatomy
B
Urogenital
trigonum
Sphincter
Levator
Repair
Levator
sutured
C
Vaginal
sutures placed
D
Finger
in rectum
E
Trigonum
sutured
Skin sutures
left
long
F
Second
Method
One suture
row including
all layers
G

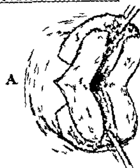
SURGICAL ANATOMY OF THE UTERUS

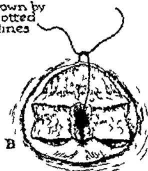


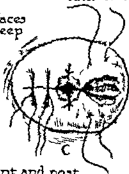
HYSTERECTOMY
(CURTIS)

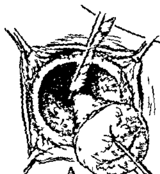


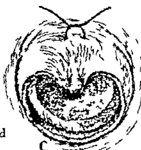

DODERLEIN KRONIG-GRAVES
1
Stripping back bladder thru transverse incision at junction of cervix and bladder
2
Opening utero vesical space Bladder above
3
Adnexa tied off with mass ligatures
4
Broad ligaments divided
5
Parametrium and post vag wall divided
6
Peritoneum and broad ligs sewed to vagina
7
Closure


CURTIS SCHROEDER
A

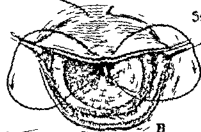

Cervix split
Portion removed shown by dotted lines
B

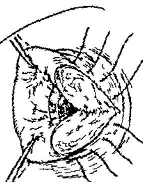

Raw surfaces closed by deep sutures
C
Ant and post lips united to mucosa of cervical canal

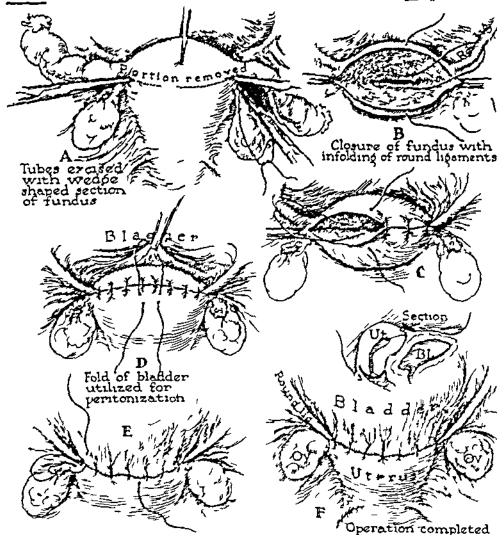

A
Vaginal cuff elevated Cone shaped portion excised


STURMDORF
C
Sturmdorf stitch


Closure
D

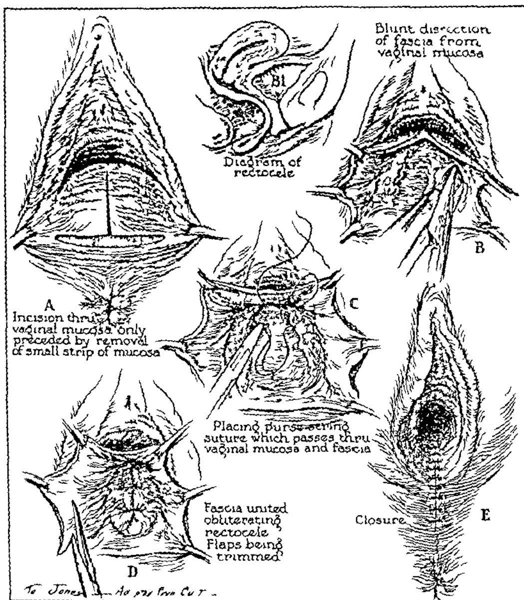

B


GRAVES
EMMET
Repair of cervix

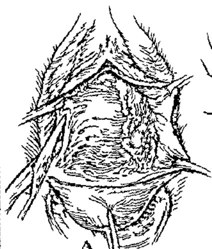


FALLS
Portion removed
A
Tubes erased with wedge shaped section of fundus
B
Closure of fundus with infolding of round ligaments
C
Bladder
D
Fold of bladder utilized for peritonization
E
Section
Ut
Bl
Bladder
Ov
Uterus
Ov
F
Operation completed

REPAIR OF RECTOCELE



ADVANCEMENT OPERATION



A
Fascia separated from vaginal flaps

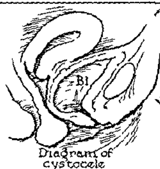
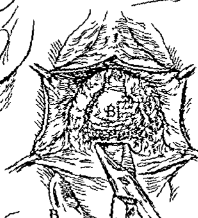
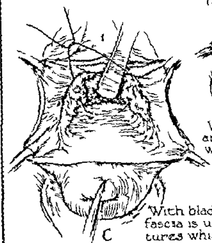


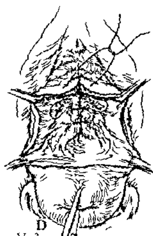
Diagram of cystocele



B
Bladder freed by blunt dissection



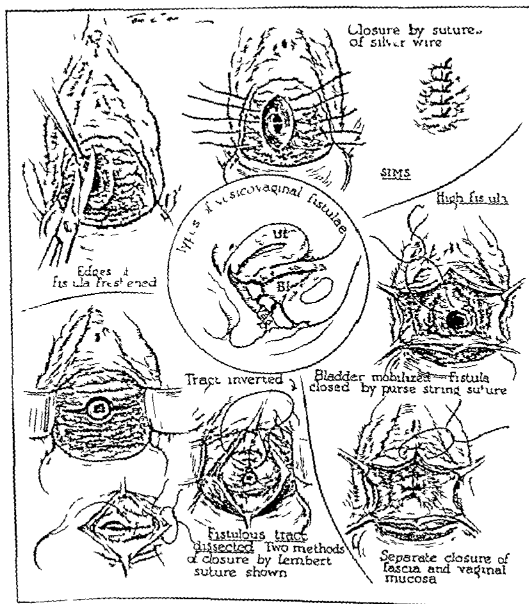
C
With bladder elevated fascia is united by sutures which enter uterus



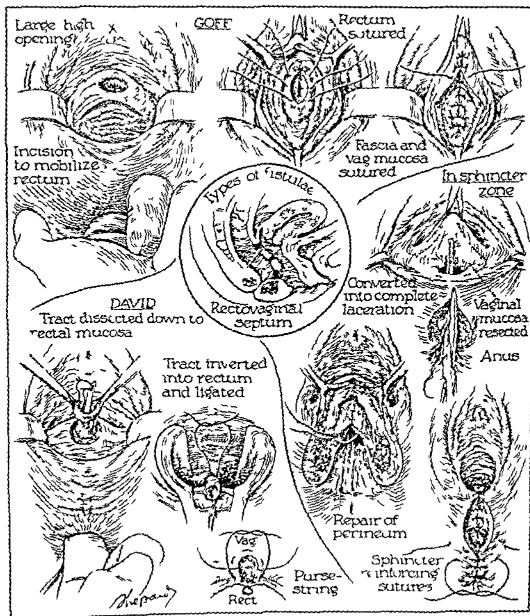
D
Vaginal flaps trimmed and united by sutures which grasp underlying fascia



F
Closure



Closure by sutures of silver wire
SIMS
High fistula
Edges of fistula freshened
Ut
Bl
Tract inverted
Bladder mobilized—fistula closed by purse string suture
Fistulous tract dissected Two methods of closure by Lembert suture shown
Separate closure of fascia and vaginal mucosa


Large high opening
GOFF
Rectum sutured
Incision to mobilize rectum
Fascia and vag mucosa sutured
Types of fistulae
In sphincter zone
Rectovaginal septum
Converted into complete laceration
Vaginal mucosa resected
DAVID
Tract dissected down to rectal mucosa
Anus
Tract inverted into rectum and ligated
Repair of perineum
Vag
Purse-string
Rect
Sphincter reinforcing sutures
Shepard

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